

1R - 427 - 79

REPORTS

DATE:

10-2-2002

1RO 427-79

FINAL REPORT

**RICE OPERATING COMPANY
JUNCTION BOX FINAL REPORT**

BOX LOCATION

SWD SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE	COUNTY	BOX DIMENSIONS - FEET		
EME	M-9-3	M	9	20S	37E	LEA	Length	Width	Depth

LAND TYPE: BLM _____ STATE _____ FEE LANDOWNER S & W CATTLE CO OTHER _____

Depth to Groundwater 18 feet NMOCD SITE ASSESSMENT RANKING SCORE: 20

Date Started 06/19/2002 Date Completed 09/09/2002 OCD Witness YES

Soil Excavated 8000 cubic yards Excavation Length 110 Width 100 Depth 20 feet

Soil Disposed _____ cubic yards Offsite Facility _____ Location _____

FINAL ANALYTICAL RESULTS: Sample Date 09/09/2002 Sample Depth 20

Procure 5-point composite sample of bottom and 4-point composite sample of sidewalls. TPH, BTEX and Chloride laboratory test results completed by using an approved lab and testing procedures pursuant to NMOCD guidelines.

Sample Location	Benzene mg/kg	Toluene mg/kg	Ethyl Benzene mg/kg	Total Xylenes mg/kg	GRO mg/kg	DRO mg/kg	Chlorides mg/kg
SIDEWALLS	<0.025	<0.025	<0.025	<0.025	<10	<10	245
BOTTOM	<0.025	<0.025	<0.025	<0.025	<10	<10	95

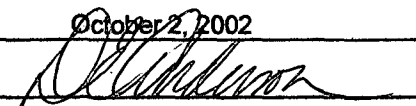
General Description of Remedial Action: This junction box was located within the

CHLORIDE FIELD TESTS

area excavated and remediated at the M-9 SWD Facility. All samples and test results were taken from the M-9 SWD Facility remediation site. The site was excavated to 20' bgs and then backfilled with 4' of clean overburden soil. A compacted red-bed clay liner was installed and density tested. The excavation was backfilled with remediated soil. The remediated soil was tested in 3' lifts. A monitor well was installed to sample groundwater constituents. Any remaining hydrocarbon will naturally attenuate.

LOCATION	DEPTH	mg/kg
SIDEWALLS	13'	260
BOTTOM	20'	100
4' fill above gw	16'	220
1st lift above liner	12'	310
2nd lift	9'	350
3rd lift	6'	320
4th lift	3'	360
Surface	0'	471

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

DATE October 2, 2002 PRINTED NAME D. E. Anderson
SIGNATURE  TITLE Project Leader - Environmental

ANALYTICAL REPORT

Prepared for:

LOGAN ANDERSON
RE ENVIRONMENTAL
P.O. BOX 13418
ODESSA, TX 79768

Project: Rice

PO#:

Order#: G0204401

Report Date: 09/04/2002

M-9

Certificates

US EPA Laboratory Code TX00158

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

RE ENVIRONMENTAL
P.O. BOX 13418
ODESSA, TX 79768
366-0804

Order#: G0204401
Project:
Project Name: Rice
Location: M-9 EME

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

<u>Lab ID:</u>	<u>Sample :</u>	<u>Matrix:</u>	<u>Date / Time</u> <u>Collected</u>	<u>Date / Time</u> <u>Received</u>	<u>Container</u>	<u>Preservative</u>
0204401-01	Bottom Composite @20'	SOIL	8/28/02 15:00	8/29/02 16:30	4 oz Glass	Ice
<u>Lab Testing:</u>		Rejected: No	Temp:	0.5C		
8015M						
8021B/5030 BTEX						
Chloride						

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

LOGAN ANDERSON
RE ENVIRONMENTAL
P.O. BOX 13418
ODESSA, TX 79768

Order#: G0204401
Project:
Project Name: Rice
Location: M-9 EME

Lab ID: 0204401-01
Sample ID: Bottom Composite @20'

8015M

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
		8/30/02	1	1	CK	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0003022-02		9/1/02 9:30	1	25	CK	8021B

Parameter	Result mg/kg	RL
Benzene	<0.025	0.025
Ethylbenzene	<0.025	0.025
Toluene	<0.025	0.025
p/m-Xylene	<0.025	0.025
o-Xylene	<0.025	0.025

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	106%	80	120
Bromofluorobenzene	119%	80	120

Approval:

Raland K. Tuttle, Lab Director, QA Officer

Celey D. Keene, Org. Tech. Director

Jeanne McMurrey, Inorg. Tech. Director

Sandra Biezugbe, Lab Tech.

Sara Molina, Lab Tech.

Date

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

Page 1 of 1

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

LOGAN ANDERSON
RE ENVIRONMENTAL
P.O. BOX 13418
ODESSA, TX 79768

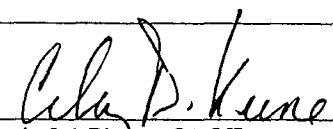
Order#: G0204401
Project:
Project Name: Rice
Location: M-9 EME

Lab ID: 0204401-01
Sample ID: Bottom Composite @20'

Test Parameters

<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Chloride	94.5	mg/kg	1	20	9253	9/4/02	SB

Approval:


Raland K. Tuttle, Lab Director, QA Officer
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

Date 9/5/02

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8015M

Order#: G0204401

BLANK	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg		0003018-02			<10.0		
MS	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg		0204400-04	198	952	1124	97.3%	
MSD	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg		0204400-04	198	952	1144	99.4%	1.8%
SRM	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg		0003018-05		1000	1030	103.0%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8021B/5030 BTEX

Order#: G0204401

BLANK	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/kg		0003022-02			<0.025		
Ethylbenzene-mg/kg		0003022-02			<0.025		
Toluene-mg/kg		0003022-02			<0.025		
p/m-Xylene-mg/kg		0003022-02			<0.025		
o-Xylene-mg/kg		0003022-02			<0.025		
MS	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/kg		0204388-07	0	0.1	0.089	89.%	
Ethylbenzene-mg/kg		0204388-07	0	0.1	0.090	90.%	
Toluene-mg/kg		0204388-07	0	0.1	0.091	91.%	
p/m-Xylene-mg/kg		0204388-07	0	0.2	0.188	94.%	
o-Xylene-mg/kg		0204388-07	0	0.1	0.091	91.%	
MSD	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/kg		0204388-07	0	0.1	0.094	94.%	5.5%
Ethylbenzene-mg/kg		0204388-07	0	0.1	0.095	95.%	5.4%
Toluene-mg/kg		0204388-07	0	0.1	0.097	97.%	6.4%
p/m-Xylene-mg/kg		0204388-07	0	0.2	0.198	99.%	5.2%
Xylene-mg/kg		0204388-07	0	0.1	0.095	95.%	4.3%
SRM	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/kg		0003022-05		0.1	0.096	96.%	
Ethylbenzene-mg/kg		0003022-05		0.1	0.097	97.%	
Toluene-mg/kg		0003022-05		0.1	0.098	98.%	
p/m-Xylene-mg/kg		0003022-05		0.2	0.201	100.5%	
o-Xylene-mg/kg		0003022-05		0.1	0.097	97.%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Test Parameters

Order#: G0204401

BLANK	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/kg		0003049-01			<20.0		
MS	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/kg		0204401-01	94.5	667	756	99.2%	
MSD	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/kg		0204401-01	94.5	667	744	97.4%	1.6%
SRM	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/kg		0003049-04		5000	4960	99.2%	

12600 West I-20 East
Odessa, Texas 79763

Phone: 915-563-1800
Fax: 915-563-1713

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager:

Donnie Anderson

Company Name

RT Entron menda /

Company Address:

Project Loc:

City/State/Zip:

7-9 EME

Telephone No:

Fax No:

Sampler Signature:

[illegible]

ANALYTICAL REPORT

Prepared for:

LOGAN ANDERSON
RE ENVIRONMENTAL
P.O. BOX 13418
ODESSA, TX 79768

Project: Rice

PO#:

Order#: G0204422

Report Date: 09/06/2002

Certificates

US EPA Laboratory Code TX00158

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

RE ENVIRONMENTAL
P.O. BOX 13418
ODESSA, TX 79768
366-0804

Order#: G0204422
Project:
Project Name: Rice
Location: M-9

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

<u>Lab ID:</u>	<u>Sample :</u>	<u>Matrix:</u>	<u>Date / Time</u> <u>Collected</u>	<u>Date / Time</u> <u>Received</u>	<u>Container</u>	<u>Preservative</u>
0204422-01	5 pt. Wall Comp. @ 13'	SOIL	8/30/02 15:00	9/3/02 11:30	4 oz glass	Ice
	<u>Lab Testing:</u> 8015M 8021B/5030 BTEX Chloride	Rejected: No		Temp: 16.5 C		
0204422-02	4 pt. Bottom Comp. @ 16'	SOIL	8/30/02 15:00	9/3/02 11:30	4 oz glass	Ice
	<u>Lab Testing:</u> 8015M 8021B/5030 BTEX Chloride	Rejected: No		Temp: 16.5 C		

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

LOGAN ANDERSON
RE ENVIRONMENTAL
P.O. BOX 13418
ODESSA, TX 79768

Order#: G0204422
Project:
Project Name: Rice
Location: M-9

Lab ID: 0204422-01
Sample ID: 5 pt. Wall Comp. @ 13'

8015M

Method	Date	Date	Sample	Dilution		
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>	<u>Analyst</u>	<u>Method</u>
		9/3/02	1	1	CK	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

8021B/5030 BTEX

Method	Date	Date	Sample	Dilution		
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>	<u>Analyst</u>	<u>Method</u>
0003053-02		9/5/02 13:19	1	25	CK	8021B

Parameter	Result mg/kg	RL
Benzene	<0.025	0.025
Ethylbenzene	<0.025	0.025
Toluene	<0.025	0.025
p/m-Xylene	<0.025	0.025
o-Xylene	<0.025	0.025

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	114%	80	120
Bromofluorobenzene	115%	80	120

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

LOGAN ANDERSON
RE ENVIRONMENTAL
P.O. BOX 13418
ODESSA, TX 79768

Order#: G0204422
Project:
Project Name: Rice
Location: M-9

Lab ID: 0204422-02
Sample ID: 4 pt. Bottom Comp. @ 16'

8015M

Method	Date	Date	Sample	Dilution		
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>	<u>Analyst</u>	<u>Method</u>
		9/3/02	1	1	CK	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	50.3	10.0
TOTAL, C6-C35	50.3	10.0

8021B/5030 BTEX

Method	Date	Date	Sample	Dilution		
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>	<u>Analyst</u>	<u>Method</u>
0003053-02		9/5/02 14:25	1	25	CK	8021B

Parameter	Result mg/kg	RL
Benzene	<0.025	0.025
Ethylbenzene	<0.025	0.025
Toluene	<0.025	0.025
p/m-Xylene	<0.025	0.025
o-Xylene	<0.025	0.025

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	108%	80	120
Bromofluorobenzene	113%	80	120

Approval:

Raland K. Tuttle 9-06-02
Raland K. Tuttle, Lab Director, QA Officer
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

LOGAN ANDERSON
RE ENVIRONMENTAL
P.O. BOX 13418
ODESSA, TX 79768

Order#: G0204422
Project:
Project Name: Rice
Location: M-9

Lab ID: 0204422-01
Sample ID: 5 pt. Wall Comp. @ 13'

Test Parameters

<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Chloride	245	mg/kg	1	20	9253	9/4/02	SB

Lab ID: 0204422-02
Sample ID: 4 pt. Bottom Comp. @ 16'

Test Parameters

<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Chloride	354	mg/kg	1	20	9253	9/4/02	SB

Approval:

Raland K Tuttle 9-06-02

Raland K. Tuttle, Lab Director, QA Officer

Date

Celey D. Keene, Org. Tech. Director

Jeanne McMurrey, Inorg. Tech. Director

Sandra Biezugbe, Lab Tech.

Sara Molina, Lab Tech.

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8015M

Order#: G0204422

BLANK	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg		0003048-02			<10.0		
CONTROL	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg		0003048-03		952	1003	105.4%	
CONTROL DUP	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg		0003048-04		952	992	104.2%	1.1%
SRM	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg		0003048-05		1000	1040	104.4%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8021B/5030 BTEX

Order#: G0204422

BLANK	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/kg		0003053-02			<0.025		
Ethylbenzene-mg/kg		0003053-02			<0.025		
Toluene-mg/kg		0003053-02			<0.025		
p/m-Xylene-mg/kg		0003053-02			<0.025		
o-Xylene-mg/kg		0003053-02			<0.025		
MS	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/kg		0204422-01	0	0.1	0.093	93.0%	
Ethylbenzene-mg/kg		0204422-01	0	0.1	0.095	95.0%	
Toluene-mg/kg		0204422-01	0	0.1	0.095	95.0%	
p/m-Xylene-mg/kg		0204422-01	0	0.2	0.196	98.0%	
o-Xylene-mg/kg		0204422-01	0	0.1	0.095	95.0%	
MSD	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/kg		0204422-01	0	0.1	0.094	94.0%	1.1%
Ethylbenzene-mg/kg		0204422-01	0	0.1	0.096	96.0%	1.0%
Toluene-mg/kg		0204422-01	0	0.1	0.096	96.0%	1.0%
p/m-Xylene-mg/kg		0204422-01	0	0.2	0.198	99.0%	1.0%
o-Xylene-mg/kg		0204422-01	0	0.1	0.096	96.0%	1.0%
CRM	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/kg		0003053-05		0.1	0.105	105.0%	
Ethylbenzene-mg/kg		0003053-05		0.1	0.105	105.0%	
Toluene-mg/kg		0003053-05		0.1	0.108	108.0%	
p/m-Xylene-mg/kg		0003053-05		0.2	0.215	107.5%	
o-Xylene-mg/kg		0003053-05		0.1	0.104	104.0%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Test Parameters

Order#: G0204422

BLANK	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/kg		0003050-01			<20.0		
MS	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/kg		0204410-15	5320	5000	10300	99.6%	
MSD	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/kg		0204410-15	5320	5000	10200	97.6%	1.%
SRM	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/kg		0003050-04		5000	4960	99.2%	

12600 West I-20 East
Odessa, Texas 79763
Phone: 915-563-1800
Fax: 915-563-1713

Phone: 915-563-1800
Fax: 915-563-1713

Project Manager:

Donnie Anderson

Company Name

LF Envolvimento

Company Address:

City/State/Zip:

Telephone No:

Sampler Signature:

Fax No:

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Name:

Project #:

Project Loc:

PO#

Analyze For:

[illegible]

Special Instructions

Fax Results to Donnie Anderson

Relinquished by:

Date	9-3-0
------	-------

Received by:

Relinquished by:

Received by ELO.

9-3-02 1990

Jane Murray

Sample Containers Intact?	Temperature Upon Receipt	Laboratory Comments:

16,500