

1R - 427-28

REPORTS

DATE:

4-11-2003

FINAL REPORT

**RICE OPERATING COMPANY
JUNCTION BOX FINAL REPORT**

BOX LOCATION

SWD SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE	COUNTY	BOX DIMENSIONS - FEET		
EME	GM State EOL	H	2	21 S	35 E	Lea	Length	Width	Depth
							7	5	6

LAND TYPE: BLM _____ STATE _____ FEE LANDOWNER Merchant Cattle Co. OTHER _____

Depth to Groundwater 53 feet NMOCD SITE ASSESSMENT RANKING SCORE: 10

Date Started 3/19/2003 Date Completed 3/27/2003 OCD Witness No

Soil Excavated 133 cubic yards Excavation Length 20 Width 15 Depth 12 feet

Soil Disposed 0 cubic yards Offsite Facility n/a Location n/a

FINAL ANALYTICAL RESULTS: Sample Date 3/20/2003 Sample Depth 12' bgs

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	<10.0	<10.0	886
BOTTOM	<0.025	<0.025	<0.025	<0.025	<10.0	84.7	1030
REMEDIED	<0.025	0.389	<0.025	0.036	<10.0	813	1080

General Description of Remedial Action: Chloride impact was vertically consistent at this junction box located next to an active production facility. The surrounding surface area is oil-stained and overlain by hardpan. There is evidence of saltwater spills near the water tank at the battery. A 20' x 15' area at the box was excavated down to 12' bgs, where a compacted clay barrier was installed to inhibit downward migration of remaining chloride impact. NMOCD TPH guidelines were met on the walls and bottom. The excavation was then backfilled with the soil that was landfarmed on site. A new watertight box has been built on the other side of the road away from the active facility (see diagram).

CHLORIDE FIELD TESTS

LOCATION	DEPTH (ft)	ppm
Vert.	4	660
	6	800
	8	1000
	10	1400
	12	1100
wall comp.	n/a	1020
bottom comp.	12	1210
remed. Comp.	n/a	1200

cc: lab results, photos; diagram

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

DATE 4/11/2003 PRINTED NAME Kristin Farris

SIGNATURE Kristin Farris TITLE Projects Scientist

EME GM State EOL 15' x 20' x 12' Excavation



= oil stain & hard pan



= 2 FT

new jct. box
moved 20' north

oil stain

R O A D

20'

JCT. BOX
EXCAVATION

12' bgs

poly customer
line

20'

chemical
pump

PRODUCTION BATTERY

salt crust

water tank

treater

EME GM State EOL



Old Junction Box



After NORM Removal; Before Remediation

EME GM State EOL



Excavation with Clay Liner at Bottom



New Junction Box North of Road (see diagram)

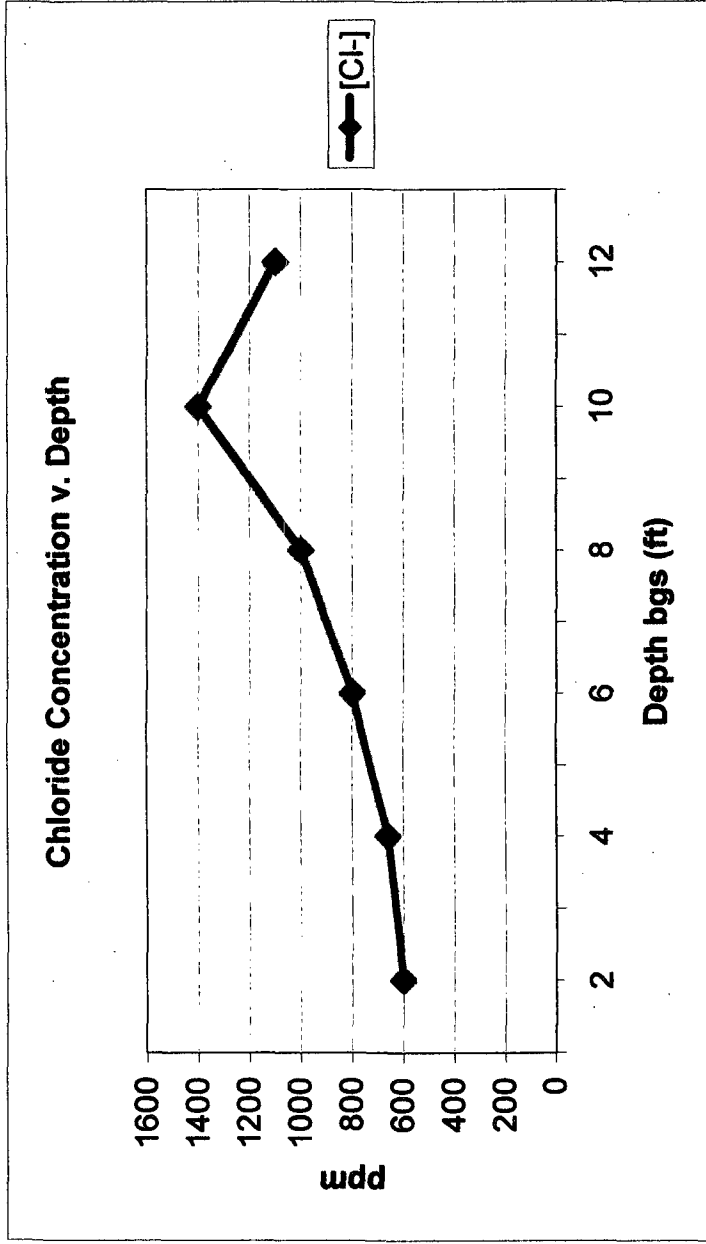
CHLORIDE CONCENTRATION CURVE

RICE Operating Company

EME GM State EOL
UL 'H', Sec. 2, T21S, R35E

Depth bgs (ft)	[Cl-] ppm
2	600
4	660
6	800
8	1000
10	1400
12	1100

Groundwater = 53 ft



ANALYTICAL REPORT

Prepared for:

Kristin Farris
Rice Operating
122 W. Taylor
Hobbs, NM 88240

Project: GM State EOL

PO#: 757

Order#: G0306118

Report Date: 04/02/2003

Certificates

US EPA Laboratory Code TX00158

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

Rice Operating
122 W. Taylor
Hobbs, NM 88240
505-397-1471

Order#: G0306118
Project:
Project Name: GM State EOL
Location: 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>
0306118-01	Wall Comp.	SOIL	3/27/03	3/28/03 19:55	4 oz glass	Ice
	<u>Lab Testing:</u>	Rejected: No		Temp: 2 C		
	8015M					
	8021B/5030 BTEX					
	Chloride					
0306118-02	Remed. Comp.	SOIL	3/27/03	3/28/03 19:55	4 oz glass	Ice
	<u>Lab Testing:</u>	Rejected: No		Temp: 2 C		
	8015M					
	8021B/5030 BTEX					
	Chloride					

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

Kristin Farris
Rice Operating
122 W. Taylor
Hobbs, NM 88240

Order#: G0306118
Project:
Project Name: GM State EOL
Location: EME

Lab ID: 0306118-01
Sample ID: Wall Comp.

8015M

Method	Date	Date	Sample	Dilution	Analyst	Method
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>		
		4/1/03	1	1	WL	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

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	102%	70	130
1-Chlorooctadecane	98%	70	130

8021B/5030 BTEX

Method	Date	Date	Sample	Dilution	Analyst	Method
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>		
0005116-02		4/1/03 18:43	1	25	CK	8021B

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

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	84%	80	120
Bromofluorobenzene	114%	80	120

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

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ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

Kristin Farris
Rice Operating
122 W. Taylor
Hobbs, NM 88240

Order#: G0306118
Project:
Project Name: GM State EOL
Location: EME

Lab ID: 0306118-02
Sample ID: Remed. Comp.

8015M

Method	Date	Date	Sample	Dilution	Analyst	Method
Blank	Prepared	Analyzed	Amount	Factor		
		4/1/03	1	1	WL	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	813	10.0
TOTAL, C6-C35	813	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	115%	70	130
1-Chlorooctadecane	126%	70	130

8021B/5030 BTEX

Method	Date	Date	Sample	Dilution	Analyst	Method
Blank	Prepared	Analyzed	Amount	Factor		
0005116-02		4/2/03 10:51	1	25	CK	8021B

Parameter	Result mg/kg	RL
Benzene	<0.025	0.025
Toluene	0.389	0.025
Ethylbenzene	<0.025	0.025
p/m-Xylene	0.036	0.025
o-Xylene	<0.025	0.025

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	93%	80	120
Bromofluorobenzene	98%	80	120

Approval:

Cele D. Keene 4/02/03
Raland K. Tuttle, Lab Director, QA Officer
Cele 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 2 of 2

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

Kristin Farris
Rice Operating
122 W. Taylor
Hobbs, NM 88240

Order#: G0306118
Project:
Project Name: GM State EOL
Location: EME

Lab ID: 0306118-01
Sample ID: Wall Comp.

Test Parameters

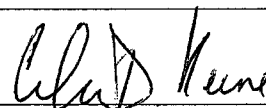
<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Chloride	886	mg/kg	1	20	9253	3/31/03	CK

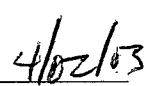
Lab ID: 0306118-02
Sample ID: Remed. Comp.

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	1080	mg/kg	1	20	9253	3/31/03	CK

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

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8015M

Order#: G0306118

BLANK	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg		0005102-02			<10.0		
MS	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg		0306116-01	0	952	898	94.3%	
MSD	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg		0306116-01	0	952	923	97.9%	2.7%
SRM	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg		0005102-05		1000	907	90.7%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8021B/5030 BTEX

Order#: G0306118

BLANK	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/kg		0005116-02			<0.025		
Toluene-mg/kg		0005116-02			<0.025		
Ethylbenzene-mg/kg		0005116-02			<0.025		
p/m-Xylene-mg/kg		0005116-02			<0.025		
o-Xylene-mg/kg		0005116-02			<0.025		
MS	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/kg		0306119-01	0	0.1	0.089	89.%	
Toluene-mg/kg		0306119-01	0	0.1	0.092	92.%	
Ethylbenzene-mg/kg		0306119-01	0	0.1	0.100	100.%	
p/m-Xylene-mg/kg		0306119-01	0	0.2	0.209	104.5%	
o-Xylene-mg/kg		0306119-01	0	0.1	0.107	107.%	
MSD	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/kg		0306119-01	0	0.1	0.086	86.%	3.4%
Toluene-mg/kg		0306119-01	0	0.1	0.089	89.%	3.3%
Ethylbenzene-mg/kg		0306119-01	0	0.1	0.097	97.%	3.%
p/m-Xylene-mg/kg		0306119-01	0	0.2	0.204	102.%	2.4%
o-Xylene-mg/kg		0306119-01	0	0.1	0.103	103.%	3.8%
SRM	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/kg		0005116-05		0.1	0.085	85.%	
Toluene-mg/kg		0005116-05		0.1	0.089	89.%	
Ethylbenzene-mg/kg		0005116-05		0.1	0.095	95.%	
p/m-Xylene-mg/kg		0005116-05		0.2	0.199	99.5%	
o-Xylene-mg/kg		0005116-05		0.1	0.099	99.%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Test Parameters

Order#: G0306118

BLANK	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/kg		0005095-01			<20.0		
MS	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/kg		0306109-02	0	500	532	106.4%	
MSD	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/kg		0306109-02	0	500	517	103.4%	2.9%
SRM	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/kg		0005095-04		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

Kristin Farris

Project Name: GM State EOL

Company Name RICE Operating

Project #:

122 W. Taylor

Project Loc: EME

City/State/Zip: Hobbs, NM 88240

PO #: 757

Fax No: (505) 397-1471

Calvin

[illegible]

Special Instructions:

Tax Results

Relinquished by:

Date 133713

Received by:

Data

Time:

Sample Containers Intact?
Temperature Upon Receipt
Laboratory Comments

622 200

Relinquished by:

Date 3/28/03

Residual (4, 5) 101

1

100

CP Wagner

ANALYTICAL REPORT

Prepared for:

Bottom Comp. @ 12'

Kristin Farris
Rice Operating
122 W. Taylor
Hobbs, NM 88240

Project: GM State EOL

PO#: 757

Order#: G0306037

Report Date: 03/26/2003

Certificates

US EPA Laboratory Code TX00158

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

Rice Operating
122 W. Taylor
Hobbs, NM 88240
505-397-1471

Order#: G0306037
Project:
Project Name: GM State EOL
Location: EME

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<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>
0306037-01	Btm. Comp. @ 12'	SOIL	3/20/03	3/20/03 19:20	4 oz glass	Ice
	<u>Lab Testing:</u>	Rejected: No		Temp: 3 C		
	8015M					
	8021B/5030 BTEX					
	Chloride					

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

Kristin Farris
Rice Operating
122 W. Taylor
Hobbs, NM 88240

Order#: G0306037
Project:
Project Name: GM State EOL
Location: EME

Lab ID: 0306037-01
Sample ID: Btm. Comp. @ 12'

8015M

Method	Date	Date	Sample	Dilution	Analyst	Method
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>		
		3/21/03	1	1	CK	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	84.7	10.0
TOTAL, C6-C35	84.7	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	86%	70	130
1-Chlorooctadecane	83%	70	130

8021B/5030 BTEX

Method	Date	Date	Sample	Dilution	Analyst	Method
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>		
0005052-02		3/25/03 16:00	1	25	CK	8021B

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

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	110%	80	120
Bromofluorobenzene	93%	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

Raland K. Tuttle 3-26-03

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

Page 1 of 1

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

Kristin Farris
Rice Operating
122 W. Taylor
Hobbs, NM 88240

Order#: G0306037
Project:
Project Name: GM State EOL
Location: EME

Lab ID: 0306037-01
Sample ID: Btm. Comp. @ 12'

Test Parameters

<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution</u> <u>Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date</u> <u>Analyzed</u>	<u>Analyst</u>
Chloride	1030	mg/kg	1	20	9253	3/24/03	SB

Approval:

Roland K. Tuttle 3-27-03

Roland 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

QUALITY CONTROL REPORT

8015M

Order#: G0306037

BLANK	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg		0005036-02			<10.0		
MS	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg		0306036-02	0	952	801	84.1%	
MSD	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg		0306036-02	0	952	822	86.3%	2.6%
SRM	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg		0005036-05		1000	829	82.9%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8021B/5030 BTEX

Order#: G0306037

BLANK	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/kg		0005052-02			<0.025		
Toluene-mg/kg		0005052-02			<0.025		
Ethylbenzene-mg/kg		0005052-02			<0.025		
p/m-Xylene-mg/kg		0005052-02			<0.025		
o-Xylene-mg/kg		0005052-02			<0.025		
MS	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/kg		0306058-02	0	0.1	0.100	100.%	
Toluene-mg/kg		0306058-02	0	0.1	0.101	101.%	
Ethylbenzene-mg/kg		0306058-02	0	0.1	0.104	104.%	
p/m-Xylene-mg/kg		0306058-02	0	0.2	0.216	108.%	
o-Xylene-mg/kg		0306058-02	0	0.1	0.103	103.%	
MSD	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/kg		0306058-02	0	0.1	0.106	106.%	5.8%
Toluene-mg/kg		0306058-02	0	0.1	0.105	105.%	3.9%
Ethylbenzene-mg/kg		0306058-02	0	0.1	0.102	102.%	1.9%
p/m-Xylene-mg/kg		0306058-02	0	0.2	0.210	105.%	2.8%
o-Xylene-mg/kg		0306058-02	0	0.1	0.098	98.%	5.%
SRM	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/kg		0005052-05		0.1	0.099	99.%	
Toluene-mg/kg		0005052-05		0.1	0.099	99.%	
Ethylbenzene-mg/kg		0005052-05		0.1	0.099	99.%	
p/m-Xylene-mg/kg		0005052-05		0.2	0.206	103.%	
o-Xylene-mg/kg		0005052-05		0.1	0.100	100.%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Test Parameters

Order#: G0306037

BLANK	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/kg		0005041-01			<20.0		
MS	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/kg		0306030-01	0	500	514	102.8%	
MSD	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/kg		0306030-01	0	500	496	99.2%	3.6%
SRM	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/kg		0005041-04		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

Kristin Farris

Project Name: GM State EOL

RICE Operating

Project #:

122 W. Taylor

Project Loc:

Hobbs, NM 88240

PO #: 757

Telephone No. (505) 393-9174

Fax No: (505) 397-1471

Sampler Signature:

[illegible]