1R - 427 - 62

# WORK PLANS

# DATE: 5-22-07



A LAND

R. 2. 24

Sund of a

2. 2. 2. 2

and the second se

1. C. S. S.

1.00

Sugar.

Highlander Environiental Co

<u>IR 427-62</u> <u>Work flan</u> 5-22-07

Midlan

CERTIFIED MAIL RETURN RECIEPT NO. 7005 1160 0005 3780 6498

May 22, 2007

Mr. Wayne Price New Mexico Energy, Minerals, & Natural Resources Oil Conservation Division, Environmental Bureau 1220 S. St. Francis Drive Santa Fe, New Mexico 87504

#### RE: CORRECTIVE ACTION PLAN (CAP) A-2 RELEASE, EME SWD SYSTEM UNIT "A", SEC. 2, T20S, R36E LEA COUNTY, NEW MEXICO

Mr. Price:

RICE Operating Company (ROC) has retained Highlander Environmental Corp. (Highlander) to address potential environmental concerns at the above-referenced site. ROC is the service provider (agent) for the Eunice Monument Eumont (EME) SWD System and has no ownership of any portion of the pipeline, well, or facility. The System is owned by a consortium of oil producers, System Partners, who provide all operating capital on a percentage ownership/usage basis. Environmental projects of this magnitude require System Partner AFE approval and work begins as funds are received. In general, project funding is not forthcoming until NMOCD approves the work plan. Therefore, your timely review of this submission is requested.

For all environmental projects, ROC will choose a path forward that:

- protects public health,
- provides the greatest net environmental benefit,
- complies with NMOCD Rules, and
- is supported by good science.

Each site shall have three submissions or a combination of:

- 1. An <u>Investigation and Characterization Plan</u> (ICP) is a proposal for data gathering and site characterization and assessment.
- 2. Upon evaluating the data and results from the ICP, a recommended remedy is submitted in this <u>Corrective Action Plan</u> (CAP).

3. Finally, after implementing the remedy, a <u>Closure Report</u> with final documentation will be submitted.

#### **1.0 BACKGROUND & PREVIOUS WORK**

On August 26, 2003, a release was discovered, 1055 feet west of the A-2 Junction. According to the form C-141 (Initial) filed with the NMOCD, the release was due to a crack on a 6 inch asbestos/concrete line. An estimated 15 barrels of produced water was released. Regional groundwater information indicated that the depth to groundwater is approximately 50-90 feet below ground surface (bgs).

Initial soil sampling performed in April 2004, indicated residual subsurface chloride impact. On January 2, 2004, a hollow stem auger unit was utilized to conduct one soil boring at the leak source area at the site. Chloride concentrations did not decline with depth, and the site was disclosed to the OCD as a site with potential groundwater impact on January 14, 2004. The soil boring was backfilled with bentonite and drill cuttings.

On July 21, 2006, ROC submitted an ICP to Mr. Wayne Price of the NMOCD-Santa Fe office for review. Mr. Price approved the ICP in a letter dated August 9, 2006.

Between October 10 and October 20, 2006, Highlander personnel were onsite to oversee the installation of three monitor wells (MW-1 through MW-3) within and up and down gradient of the release area. The release area measured approximately 25 feet by 25 feet. Soil samples were collected every 5 feet utilizing a split spoon sampler, and field screened for chlorides. Selected samples were placed into laboratory supplied containers and delivered to the laboratory under chain-of-custody control for chloride analysis by EPA method 300.0. The split spoons were decontaminated between samples with an Alconox<sup>®</sup> and deionized water wash followed by a deionized water rinse. Copies of laboratory analyses and chain-of-custody documentation are included in Appendix A. The monitor well locations are shown on Figure 2. The soil boring logs and monitor well completion diagrams are included in Appendix B. The results of the sampling are summarized in Table 1.

Referring to Table 1, the subsurface soils in monitor well MW-1 exhibited only slightly elevated chlorides, primarily confined to near surface. Monitor wells had soil concentrations of greater than 250 mg/kg at the saturated zone approximately 40 feet bgs, indicating impact from the regional groundwater.

Following installation of the monitor wells, the wells were gauged and developed by handbailing to remove fine grain sediment disturbed during drilling and to ensure collection of representative groundwater samples. Water removed from the wells was disposed of in the EME SWD system. Upon development of the monitor wells, personnel were onsite November 1, 2006 to collect representative groundwater samples from each of the monitor wells, place the samples within laboratory supplied containers and submit to the laboratory under chain-of-custody control for chloride and BTEX analysis by EPA Method 300.0 and 602/8021B, respectively. The gauging data is summarized in Table 2, while the results of the sampling are summarized in Table 3.

Referring to Table 3, all three monitor wells showed elevated chloride levels ranging from 2,950 mg/L in MW-2 (downgradient) to 4,250 mg/L in MW-3 (upgradient). In addition, TDS ranged from 4,990 mg/L in MW-2 to 7,680 mg/L in MW-3. The BTEX concentrations were below reporting limits for each of the monitor wells. In comparing the chloride concentration analysis data with other water quality in the area, specifically the ROC EME D-1, it appears the chloride concentrations at the site are consistent with regional groundwater in the area. The EME D-1 data indicates the TDS ranges from 7,910 mg/Kg to 12,900 mg/kg in areas located outside the initial release area.

#### 2.0 COLLECTED REGIONAL HYDROGEOLOGIC DATA

Groundwater was encountered at approximately 40 to 41 feet bgs in the three installed monitor wells. The regional groundwater gradient in the area is towards the southeast.

#### 3.0 EVALUATION

When evaluating any proposed remedy or investigative work, ROC will confirm that there is a reasonable relationship between the benefits created by the proposed remedy or assessment and the economic and social costs. In evaluating the documented levels of chlorides within the soil, it was determined that an unconsolidated clay barrier be placed within the impacted zone at an approximate depth of three feet below ground surface (bgs) in order to prevent further vertical migration of the chlorides into the surrounding soils. The remaining three feet above the clay barrier will be backfilled with clean soils and reseeded with native vegetation.

#### 4.0 PROPOSED REMEDY

ROC proposes preparation and revegetation of the surface soils in order to provide an infiltration barrier. See proposed revegetation area on Figure 3. Based on the visual inspection and subsurface drilling, the area of the release to be revegetated is approximately 25 feet by 25 feet. In addition, ROC proposes to continue monitoring the site for a year and submittal of an annual report. Upon completion of the year, the site will be reevaluated for closure.

If you require any additional information or have any questions or comments, please call.

Highlander Environmental Corp.

Hy Kindley, P.G. Senior Environmental Geologist



cc: ROC Edward Hansen-NMOCD

enclosures: site maps, data tables, lab results, figures



### FI

The Logical State

Sec. Sec.

P. 3. 64.9

2.3 a . Aree

A and a

140. A.

- 25 2.4 9. 32 2.4 2

18 28 26

非正常

 $\frac{2\pi}{2} \frac{1}{2} \frac{1$ 

The Case

1. 25.2 . 3 W

10 × 10

Contraction of the











### TABLES

The states

Chu, States

A 22 6

140.150

States -

A. Harley

Sec.

1

- Star Oak

177 - San 1 15

- Andrews

The Star And

and a const

Sand a second

Stand a

A President

r y stand

in Print 5.

A to Hat Beer

# Table 1 Rice Operating Soil Sample Analysis EME A-2

# Lea County, New Mexico

Sample [Benzence] 1000000 [Chivibenzene] Total Xylence [Conductor] Chloride Depth (ft) [Cong/kg) [Conductor] [Cond	Benzene   1010ene   Lthylbenzene   Total Xylenes   Total BTEX   Chloride   (mg/kg)   (mg/kg)   (mg/kg)   (mg/kg)   Chloride	Töluöne   Dthylbenzene   Total Xylenes   Total BTEX   Chloride   (mg/kg)   . (mg/kg)   . (mg/kg)   . (mg/kg)   . (mg/kg)   . (mg/kg)   . (mg/kg)	Lthylbenzene / Total Xylenes   Total BTEX   Chloride (. (mg/kg) / (mg/kg) / (mg/kg) / Eield (mg/	Total Xylenes   Total BTEX   Chloride (mg/kg) / Field (fig/	Total BTEX (mg/kg) Field (hg/	Eield (mg/	3 ()	Chlorides (mg/kg)		C12-C28	mg/kg) **>>	Total
3-5' NA NA NA NA NA NA NA .	NA NA NA NA NA NA	NA NA NA NA	NA NA NA	NA NA NA	NA		260	681	NA	NA	NA	NA
8-10' NA NA NA NA NA NA	NA NA NA NA NA	NA NA NA NA	NA NA NA	NA NA	NA		355	149	NA	NA	NA	NA
13-15' NA NA NA NA NA NA	NA NA NA NA NA NA	NA NA NA NA NA	NA NA NA	NA NA	NA		436	425	NA	NA	NA	NA
18-20' NA NA NA NA NA	NA NA NA NA NA NA	NA NA NA NA	NA NA NA	NA NA	NA		347	510	NA	NA	NA	NA
23-25' NA NA NA NA NA NA	NA NA NA NA NA NA	NA NA NA NA NA	NA NA NA	NA NA	NA		176	85	NA	NA	NA	NA
28-30' NA NA NA NA NA NA '	NA NA NA NA NA NA	NA NA NA NA NA	NA NA NA	NA NA NA	NA ~		227	181	NA	NA	NA	NA
33-35' NA NA NA NA NA NA	NA NA NA NA NA NA	NA NA NA NA NA	NA NA NA	NA NA	NA		435	425	NA	NA	NA	NA
38-40' NA NA NA NA NA NA	NA NA NA NA NA NA	NA NA NA NA	NA NA NA	NA NA	NA	_	308	425	NA	NA	NA	NA
38-40' NA NA NA NA NA NA	NA NA NA NA NA NA	NA NA NA NA	NA NA NA	NA NA	NA		224	306	NA	NA	NA	NA
38-40' NA NA NA NA NA NA	NA NA NA NA NA NA	NA NA NA NA	NA NA NA	NA NA	NA		335	574	NA	NA	NA	NA

J

Table 2
Rice Operating
Groundwater Gauging Data
EME A-2
Lea County, New Mexico

, 1958 -

State State

「「「

1.0000

1. "12 Sec.

S. 4. 84.

14 S 44

Read

1440.25

a Barran

my the to

All of Street

For Eggs

~夏、普

AND MAKE

6000

.

	Monitor Well	Date Gauged	Date of Well Installation	Top of Casing Elevation (ft)	Total Depth of Well (bgs in ft)	Water Level Below TOC (ft)	Groundwater Elevation (ft)
623	MW-1	11/01/06	10/10/06	3,596.45	54.18	43.74	3552.71
and the	MW-2	11/01/06	10/20/06	3,595.49	54.34	43.08	3552.41
	MW-3	11/01/06	10/20/06	3,595.28	55.14	42.34	3552.94

ł

Т	al	bl	le	3	

1. 2. 2 Mar . 10

7252.477

Sale and

聖の夢

のない

28,00,40

1. A. S. C.

「「「「「「」」」

12 Mar 20

2 4 3. Sec. 8

SP. A. C.

الم والمحالية

1. ANS. 1

N. 18- 18-21

#### Rice Operating

Groundwater Sample Analysis

EME A-2

#### Lea County, New Mexico

•Sample •D	Date Sampled	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mĝ/L)	Total BTEX	Chlorides (mg/L)	Sulfate (mg/L)	TDS (mg/L)
MW-1	11/01/06	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	3,820	225	6,650
MW-2	11/01/06	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	2,950	241	4,990
MW-3	11/01/06	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	4,250	232	7,680



調査な

#### SAMPLE LOG

2643
Rice Engineering
EME A-2
Lea County, New Mexico
55
10/10/06

DEPTH (in feet)	OVM	CHLORIDES (in mg/Kg)	SAMPLE DESCRIPTION
3-5	0	260	Tan/buff calcareous fine grain sand
8-10	0	355	Tan/red calcareous fine grain sand
13-15	0	436	Tan/buff calcareous fine grain sand
18-20	0	347	Tan/buff calcareous fine grain sand
23-25	0	176	Tan/red calcareous fine grain sand
28-30	0	227	Tan/red calcareous fine grain sand
33-35	0	435	Tan/red calcareous fine grain sand
38-40	1	308	Tan/brown clayey fine grain sand
43-45	0	348	Tan/brown sandy clay
48-50	0	712	Tan/brown clayey fine grain sand
53-55	0	843	Red fine grain sandy clay

Boring completed at 55 feet bgs Groundwater encountered at 40 feet

#### SAMPLE LOG

Boring/Well:	MW-2
Project Number:	2643
Client:	Rice Engineering
Site Location:	EME A-2
Location:	Lea County, New Mexico
Total Depth	52
Date Installed:	10/20/06

DEPTH (in feet)	OVM	CHLORIDES (in mg/Kg)	SAMPLE DESCRIPTION
3-5	0	117	Buff fine grain calcareous sand
8-10	0 ·	89	Buff fine grain calcareous sand with limestone intermixed
23-25	0	283	Tan fine grain calcareous sand
28-30	0	251	Tan fine grain calcareous sand
33-35	0	167	Tan fine grain calcareous sand with limestone intermixed
38-40	0	224	Tan fine grain calcareous sand
43-45	0		Tan/brown sandy clay
48-50	0		Tan fine grain sandy clay (wet)
53-55	0	843	Red fine grain sandy clay becoming red clay

Boring completed at 52 feet bgs Groundwater encountered at 41 feet

いたの

#### SAMPLE LOG

Boring/Well:	MW-3
Project Number:	2643
Client:	Rice Engineering
Site Location:	EME A-2
Location:	Lea County, New Mexico
Total Depth	52
Date Installed:	10/20/06

DEPTH (in feet)	OVM	CHLORIDES (in mg/Kg)	SAMPLE DESCRIPTION
3-5	1	553	Buff tan fine grain sandy limestone
8-10	2	449	Tan fine grain calcareous sand
13-15	0	965	Buff fine grain sandy limestone
18-20	1	545	Tan fine grain calcareous sand
23-25	1	253	Tan fine grain calcareous sand
28-30	3	240	Tan fine grain calcareous sand
33-35	2	282	Tan fine grain calcareous sand with clay intermixed
38-40	4	335	Tan clay with small amounts of sand
43-45	0		Tan fine grain sandy clay (wet)
48-50	0		Tan fine grain sandy clay (wet)

Boring completed at 52 feet bgs Groundwater encountered at 40 feet

Service Service







#### APPENDIX B

. .

.



and the second

Same and

1. 1. S.

8. 24 C

Sec. 2

1 S. W.

10 2 C. C.

2.4.7

8.5-2

2.4 4.5

20.00

3. 6 0. Not

A. 74

1. YE ...

## Analytical Report

#### **Prepared for:**

Tim Reed Highlander Environmental Corp. 1910 N. Big Spring St. Midland, TX 79705

Project: Rice/ A-2 Project Number: None Given Location: None Given

Lab Order Number: 6J13018

Report Date: 10/23/06

Highlander Environmental Corp.Project:Rice/ A-2Fax: (432) 682-39461910 N. Big Spring St.Project Number:None GivenMidland TX, 79705Project Manager:Tim Reed

#### ANALYTICAL REPORT FOR SAMPLES

and the second

9 . 18 . 2 .

State of the second

S. Biog at

1985, 20

3. 9. 5. 60

S- 258.

And the second

2,242,25

1.2.2

18. S

1.188 Lo

S. 1980

· 3.24

A 44.4

1000

9.3.3.4

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1 3-5'	6J13018-01	Soil	10/10/06 00:00	10-13-2006 16:20
MW-1 8-10'	6J13018-02	Soil	10/10/06 00:00	10-13-2006 16:20
MW-1 13-15'	6J13018-03	Soil	10/10/06 00:00	10-13-2006 16:20
MW-1 18-20'	6J13018-04	Soil	10/10/06 00:00	10-13-2006 16:20
MW-1 23-25'	6J13018-05	Soil	10/10/06 00:00	10-13-2006 16:20
MW-1 28-30'	6J13018-06	Soil	10/10/06 00:00	10-13-2006 16:20
MW-1 33-35'	6J13018-07	Soil	10/10/06 00:00	10-13-2006 16:20
MW-1 38-40'	6J13018-08	Soil	10/10/06 00:00	10-13-2006 16:20

Page 1 of 4

Highlander Environmental Corp. 1910 N. Big Spring St. Midland TX, 79705

Sec. Sec.

State State

1. 1. A.

1.44

N. 8. 8

YANK L

30, SE

× \*\*

1. 50 N.

1. 1. A. P. L.

and the second

· · · ·

#### Project: Rice/ A-2 Project Number: None Given Project Manager: Tim Reed

#### General Chemistry Parameters by EPA / Standard Methods

		Environ	mental L	ab of Te	exas				
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 3-5' (6J13018-01) Soil		·							
Chloride	681	20.0	mg/kg Wet	2	EJ62018	10/20/06	10/22/06	SW 846 9253	
MW-1 8-10' (6J13018-02) Soil						<u></u>			
Chloride	149	20.0	mg/kg Wet	2	EJ62018	10/20/06	10/22/06	SW 846 9253	
MW-1 13-15' (6J13018-03) Soil									
Chloride	425	20.0	mg/kg Wet	2	EJ62018	10/20/06	10/22/06	SW 846 9253	
MW-1 18-20' (6J13018-04) Soil									
Chloride	510	20.0	ıng/kg Wet	2	EJ62018	10/20/06	10/22/06	SW 846 9253	
MW-1 23-25' (6J13018-05) Soil									
Chloride	85.1	20.0	mg/kg Wet	2	EJ62018	10/20/06	10/22/06	SW 846 9253	
MW-1 28-30' (6J13018-06) Soil	· · ·								
Chloride	181	20.0	mg/kg Wet	2	EJ62018	10/20/06	10/22/06	SW 846 9253	
MW-1 33-35' (6J13018-07) Soil									
Chloride	425	20.0	mg/kg Wet	2	EJ62018	10/20/06	10/22/06	SW 846 9253	
MW-1 38-40' (6J13018-08) Soil						_			
Chloride	425	20.0	mg/kg Wet	2	EJ62018	10/20/06	10/22/06	SW 846 9253	

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas. Sector Sector

1. 9. States

Sec. Hice .

2.4.5

2 a . . . . .

الكحاسيان

1

A. B.

34° 5

1. 2. 2. 2.

States >

#### General Chemistry Parameters by EPA / Standard Methods - Quality Control

#### Environmental Lab of Texas

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EJ62018 - Water Extraction										
Blank (EJ62018-BLK1)				Prepared:	10/20/06 A	analyzed: 10	0/22/06			
Chloride	ND	20.0	mg/kg Wet							
LCS (EJ62018-BS1)				Prepared:	10/20/06 A	analyzed: 10	)/22/06			
Chloride	93.6	5.00	mg/kg Wet	100		93.6	80-120			
Matrix Spike (EJ62018-MS1)	Sourc	e: 6J13018	-01	Prepared:	10/20/06 A	Analyzed: 10	)/22/06			
Chloride	1190	20.0	mg/kg Wet	500	681	102	80-120			
Matrix Spike Dup (EJ62018-MSD1)	Sourc	e: 6J13018	-01	Prepared:	10/20/06 A	Analyzed: 10	0/22/06			
Chloride	1210	20.0	mg/kg Wet	500	681	106	80-120	1.67	20	
Reference (EJ62018-SRM1)				Prepared:	10/20/06 A	Analyzed: 10	0/22/06			
Chloride	51.0		mg/kg	50.0		102	80-120			

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas. 
 Highlander Environmental Corp.
 Project:
 Rice/A-2
 Fax: (432) 682-3946

 1910 N. Big Spring St.
 Project Number:
 None Given

 Midland TX, 79705
 Project Manager:
 Tim Reed

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	Matrix Spike
Dup	Duplicate

Report Approved By:

Sec. 1

1000

10.20

Raland K Junis

10/23/2006

Raland K. Tuttle, Lab Manager Celey D. Keene, Lab Director, Org. Tech Director Peggy Allen, QA Officer Jeanne Mc Murrey, Inorg. Tech Director LaTasha Cornish, Chemist Sandra Sanchez, Lab Tech.

Date:

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-563-1800.

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

1 OF: 1	JUEST Mothod Wol			( ppi		روم؛ (۹۵۶) 208 208 208 208 208	9808 °860 7940, 800 7940, 800 7940, 900 7940 7940 7940 7940 7940 7940 7940 7			<u> </u>		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		· · · · · · · · · · · · · · · · · · ·		Date: <u>0110 (00</u>	VIERILI #	OTHER: Resentes by	RUZE Chergas	Autonrea. Yes No
PAGE:	ANALYSIS REC		S DH Pa S DH Qa SOODIN	52 8 7 1 2 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2	510\65 580\65 1 9 9 9 9 6 9 0 9 1 9 0 0 1 9	9 194 9 194	COURD         COURD         COURD           COURD         COURD         COURD         COURD									SAMPLED BY: (Print & Sign)	SAMPLE SHIPPED BY: (Ch-cle)	THE DELIVERED UPS	HIGHLANDER CONTACT PERSON:	Tim Red
	y kecora	CORP.		(432) 682-3946	PRESERVATIVE	209,	BLEX 8050/ MOME ICR HINO3 HINO3 LIVLENED (A MATHER OL					~ ~			×	Ласе:	Date: Time:	Date: Time:	uri, 100X	· 下 2 0 0 0 0 0 0 0 0 0 0 0 0 0
	I UNAIN OF UUSTOG	VVIRONMENTAL (	Big Spring St. Texas 79705	Fax	TE MANAGER		SAMPLE IDENTIFICATION	· · · · · · · · · · · · · · · · · · ·	(8-10) -	(13,15) -	(18-20) -	(13-25) -	(25-30)	(33-35)-	(38-40)-	<u>(5/() 5.</u> RECEIVED BY: (Signature)	RECEIVED BY: (Signature)	RECEIVED BY: (Signature)	X RECEIVED BY: (Signature) ()	DATE: 10 10 NO
	quest and	NDER EN	1910 N. I Midland.		53	PROJECT NALE:	COMP. COMP. MATRIX	S	S - M	5 mw-1	3.01	S	MW-	-Mul-	S mw-1	 Dete: 10/ Mine: 412	Dats: Timer	Dete: Time:	with marked bolis it	ATN: TX ZIP.
	Analysis ke	FICTERAL		(432) 682-4559	ENT NAME:	DIECT NO.:	B LD. DATE THEE	2 Selection					C Shafet	sin ne	K whole	RQUISHED RY (Starsture)	NEUTSHED BY: (Signature)	RQUISHED BY: (Signature)	IVDIG LABORATORY: A-E	0 000 E

Stat in the

and the second

19. THE 24

Constant of the second

1 - 2 - 2 - 1

State of the state

1 25-26-15

#### Environmental Lab of Texas Variance/ Corrective Action Report- Sample Log-In

	Variance/ Corrective Action
Client:	Highlunder
) Date/ Time:	<u>U10/13/66 4:20</u>
🌆 _ab ID # :	651301F-
nitials:	U/

1

and a second

----

dates no

#### Sample Receipt Checklist

fa I					C	lient Initials
17 . Sec.	#1	Temperature of container/ cooler?	Yes	No	3,0 °C	
	#2	Shipping container in good condition?	(TE)	No		
E.	#3 <sup>.</sup>	Custody Seals intact on shipping container/ cooler?	Yes	No	Not Present	
1	#4	Custody Seals intact on sample bottles/ container?	Yes	No	Not Present	
2	#5	Chain of Custody present?	CES	No		
679	#6	Sample instructions complete of Chain of Custody?	des	No		
S	#7	Chain of Custody signed when relinquished/ received?	XBS	No		
A	#8	Chain of Custody agrees with sample label(s)?	Fes	No	ID written on Cont./ Lid	
	#9	Container label(s) legible and intact?	(es	No	Not Applicable	
1. 1100 N	#10	Sample matrix/ properties agree with Chain of Custody?	Jos	No		
	#11	Containers supplied by ELOT?	Yes	No		
	#12	Samples in proper container/ bottle?	(#es	No	See Below	
	#13	Samples properly preserved?	Yes	No	See Below	
	#14	Sample bottles intact?	Xes	No		
	#15	Preservations documented on Chain of Custody?	Yes	No		
	#16	Containers documented on Chain of Custody?	Yes	No		
	#17	Sufficient sample amount for indicated test(s)?	Yeş	No	See Below	
	#18	All samples received within sufficient hold time?	Yes	No	See Below	
3	#19	VOC samples have zero headspace?	Yes	No	Not Applicable	
-						

#### Variance Documentation

	Contact:	<u> </u>	Contacted by:	Date/ Time:	
<b>5</b>	Regarding:				
1 8 B.	Corrective Action Taken				
3, 242. 15.	·				
A 22.50 F	Check all that Apply:		See attached e-mail/ fax		
1. A. W.			Client understands and would like to Cooling process had begun shortly a	proceed with analysis Ifter sampling event	



11. 24 C

And Links

Solution of the

and the second

Sec. 2

1. State 1.

1.2

12.00

1. 2. Color

21.10

F. - 1949.

Sec. 1

Sec. Line

Se Bures

in the

# Analytical Report

#### **Prepared for:**

Tim Reed Highlander Environmental Corp. 1910 N. Big Spring St. Midland, TX 79705

Project: Rice/ A-2 Project Number: None Given Location: None Given

Lab Order Number: 6J20015

Report Date: 10/25/06

Highlander Environmental Corp.	Project: Rice/ A-2	Fax: (432) 682-3946
1910 N. Big Spring St.	Project Number: None Given	
Midland TX, 79705	Project Manager: Tim Reed	

.

#### ANALYTICAL REPORT FOR SAMPLES

2. 2. 2.

2.445

100.28

ALC: NO.

19. A. S. S. S.

107. L

124.0.41

See Sec.

10 a 20

1.480.21

12.564

53240

12 TE A.E.

S. S. Sell's

Ste veril

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-2 38-40	6J20015-01	Soil	10/20/06 00:00	10-20-2006 15:10
MW-3 38-40	6J20015-02	Soil	10/20/06 00:00	10-20-2006 15:10

Highlander Environmental Corp.	I
1910 N. Big Spring St.	Project N
Midland TX, 79705	Project M

And Lake

also "per

111.7.7.14

Tracks

2. 6. 6. 2. 5

1.000

S. S. S.

. 40 . B

5. 2. 2. 3

2 42.

and are

200

1.2.2

10.808.60

-300-000°

South State

Carlos C

#### Project: Rice/ A-2 Project Number: None Given Project Manager: Tim Reed

#### General Chemistry Parameters by EPA / Standard Methods

#### Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-2 38-40 (6J20015-01) Soil				<u></u>					
Chloride	306	20.0	mg/kg Wet	2	EJ62505	10/24/06	10/25/06	SW 846 9253	
MW-3 38-40 (6J20015-02) Soil									
Chloride	574	20.0	mg/kg Wet	2	EJ62505	10/24/06	10/25/06	SW 846 9253	

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas. Sec.

1992 N

10 - S. 42

2.52

17. X.

a. Mari

14 S . W

22.24

2.5.8.8

Care Li

10.00

1.00

Sector 1

#### General Chemistry Parameters by EPA / Standard Methods - Quality Control

#### **Environmental Lab of Texas**

Analysis	Bacult	Reporting	Unito	Spike	Source	9/ PEC	%REC	מפת	RPD	Natas
Analyte	Kesult	Limit	Units	Level	Result	%REU	Limits	KPD	Limit	Notes
Batch EJ62505 - Water Extraction			****							
Blank (EJ62505-BLK1)				Prepared:	10/24/06	Analyzed:	10/25/06			
Chloride	ND	. 20.0	mg/kg Wet				-			
LCS (EJ62505-BS1)				Prepared:	10/24/06	Analyzed:	10/25/06			
Chloride	92.5	5.00	mg/kg Wet	100		92.5	80-120			
Matrix Spike (EJ62505-MS1)	Sour	rce: 6J19027	-01	Prepared:	10/24/06	Analyzed:	10/25/06			
Chloride	500	20.0	mg/kg Wet	500	0.00	100	80-120			
Matrix Spike Dup (EJ62505-MSD1)	Sour	rce: 6J19027	-01	Prepared:	10/24/06	Analyzed:	10/25/06			
Chloride	510	20.0	. mg/kg Wet	500	0.00	102	80-120	1.98	20	
Reference (EJ62505-SRM1)				Prepared:	10/24/06	Analyzed:	10/25/06			
Chloride	51.0		mg/kg	50.0		102	80-120			

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

Highland 1910 N. Midland	der Environmental Corp. Big Spring St. TX, 79705	Project: Project Number: Project Manager:	Rice/ A-2 None Given Tim Reed	Fax: (432) 682-3946
		Notes and De	finitions	
DET	Analyte DETECTED			
ND	Analyte NOT DETECTED at or above the reporting lim	it		
NR	Not Reported			
dry	Sample results reported on a dry weight basis			
RPD	Relative Percent Difference			
LCS	Laboratory Control Spike			
MS	Matrix Spike			
Dup	Duplicate			

Report Approved By:

S. X. ...

Sec. A

diam dia

100

C.S. Charles

Raland Kituds

10/25/2006

Raland K. Tuttle, Lab Manager Celey D. Keene, Lab Director, Org. Tech Director Peggy Allen, QA Officer Jeanne Mc Murrey, Inorg. Tech Director LaTasha Cornish, Chemist Sandra Sanchez, Lab Tech.

Date:

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-563-1800.

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Page 4 of 4

متة و الم						(1007A	Pager) Mid											14:02		the bur	H Charges	herlzså: r No	
6	ر م					190.	Carners Spire							<u> </u>				ate: Ime:	TIL		EILA	Auti Ye	
				( ep	Calor	eur "Rg	'SEL '009		~	<u> </u>							<b> </b>	ыы	ADP	073			
	anes Sanes					809/(	) 202 °, 8734												5				
÷.	RE	- 12		<u> </u>	20/0220 20/082	TOL TOL T	CC'W2 200								╞──	ļ		<u> </u>	(ej s BUS	San	NOS2		
PAG	LYST.						RCI					Ì		<u> </u>			1	10		$\bigwedge$	E E		
	ANA	5		<b></b>	6	Velnerie	LUES SCORE		·									HIL.	18 ()		ONTAC		
	-   i		3 BH	CF Pd	פי כק פי כק	ov by c	ITION ALL					<b> </b>		1		<b>†</b>		1.1	IddIff	NER	10 838		
			5 <i>P</i> H 1	4a - CJ	- Es C.4	14 04 M	OTEB RAT								┼┈			E L	S STA	DEN DEN	TLAND		
			<b>\$001</b>	XL ·	aom si	800 FE	ASOR SUIT											SAL C	SAL U	[個]	Inci		
1						209/ 209/	0200 XILE							<u>+</u>			<u> </u>					1 1	.
					EVE		CATON	-	~		<u> </u>											0	
<u>م</u> ر ج	3			946	RVAT THOD		NONE	2	·												$\  \cdot \ $	5:1	ġ
	5	റീ		2-3	RESE		EONH		,×	¦	,	1			+			1.58	i ii	 	13	12	CMARS
				) 68	đ		TOR											1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Dat	Det			8
	2	2		432	SHNM	X/M)	) OTMELTIJ JO RREWIN									<u> </u>	-				178		
				yx (				}		<u> </u>		-	1		1-	1		1			N PI		pHd
4	วี	A Z		Ц,														(erre)	(am;	(nra)	(eg		S-03
¦ ح	3	Part -																Signa	Signet	Signal	gratu	200	3
	¥	E.	ند.	ß			NOI											BY: (	BY: (	) ' <i></i>	17: (S	212	- j
C		T RV		2			TCAT									Į		GEAD	DEAL	CEAL	VED B	11	4
	3441	5	i i	~	N N		ULLNZ	<b>A</b>	10									RECO	RECO	RECT	RECEN	DATE:	¥
ب کے			ŝ	en ev	INAG ,		E E	64	1.20									00					
			.00 F	ίΩ Π	N C		Idre		10									102					žć
5		NG	щ	ອ້	SIL		63	en										101			× 1	ä	LATRI
6	ថ	(Charles	Z	an Lan		- ANE:		1 AV										ta:			:: : : : : : : : : : :		
+0,	ן ב <u>ר</u> מ		STO.	MIG		5.4-			12		<u> </u>							- Da				X	
			₩7754( <sup>P</sup>	<u>-</u>		HOH.	COME.			· 	-						-				J norm	Z: Z: HUNE:	
	5	4 N		-			XIHIN	<u>N</u>	V	<u> </u>						+		1			The process	TATZ	TANA
Ч		and a		559	0	h	UTUL											atu	ature	aturo	Ň		V REC
		Para A		32-4	1.57		2		100						+		_	1		(ड्यहुन	TORY:		FIE
		And and		) 68			DAT	1 ad a						F				57:	BY:	BY:	EORA	361	NOLLI
	E L	Hard State		432	T NA	E 3	기립 e												NE SE	ISHE	VC LA		COND
*	F.			)	THEN	ROA	L BL	1.0	18									TENEL	TING	TINGU	CETWI		alan
				77 SENTITA PAL		+L,	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	J.										ित्	RE	RE	E P	968	N N

the street

State of the second second

State of the

Contraction -

و المحمود و

3

#### Environmental Lab of Texas Variance/ Corrective Action Report- Sample Log-In

	is all A A
ient:	Highlander
ate/ Time:	10/2-0/ de 15:10
"1b ID # ;	6520015
a itials:	

1. S. C. B. C.

the formation

#### Sample Receipt Checklist

Ø		onconnoc		Clier	nt Initials
1	Temperature of container/ cooler?	Yes	No	3,0°C	
2	Shipping container in good condition?	Xes	No		
3	Custody Seals intact on shipping container/ cooler?	Yes	No	Not Present	
4	Custody Seals intact on sample bottles/ container?	Yes	No	Not Present	
5	Chain of Custody present?	Yeş	No		
6	Sample instructions complete of Chain of Custody?	Yes	No		]
7	Chain of Custody signed when relinquished/ received?	र्रोकेड	No		
8	Chain of Custody agrees with sample label(s)?	Xes	No	ID written on Cont./ Lid	
9	Container label(s) legible and intact?	res	No	Not Applicable	
:10	Sample matrix/ properties agree with Chain of Custody?	Yes_	No		
:1	Containers supplied by ELOT?	Yes	(Ng		
<b>m</b> <sup>:1</sup> /	2 Samples in proper container/ bottle?	(Fes	No	See Below	
a 11	3 Samples properly preserved?	Hes	No	See Below	
t1.	4 Sample bottles intact?	Xes	No		
50 <sup>±</sup> 1	5 Preservations documented on Chain of Custody?	Xes	No		
¢1	6 Containers documented on Chain of Custody?	Yeş	No		
#1	7 Sufficient sample amount for indicated test(s)?	Yes.	No	See Below	
<i>‡</i> 1	8 All samples received within sufficient hold time?	tes	No	See Below	_
#1	9 VOC samples have zero headspace?	Yes	No	Not Applicable	

#### Variance Documentation

Contact:	<u></u>	Contacted by:	Date/ Time:	
Regarding:		· · · · · · · · · · · · · · · · · · ·		
Corrective Action Take	n:			
			·	
Check all that Apply:		See attached e-mail/ fax Client understands and would like to proc	eed with analysis	



216 212

2. X. Y.

100

A.M. ......

ST-124

1. 600 S

Stever

Total States

1. 18 Sec.

43. 6Au

10 m - 20

## Analytical Report

**Prepared for:** 

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

Project: EME A-2 Leak Project Number: None Given Location: T20S, R36E, Sec.2 A- Lea County, NM

Lab Order Number: 6K03013

Report Date: 11/17/06

Rice Operating Co.	Project:	EME A-2 Leak	Fax: (505) 397-1471
122 W. Taylor	Project Number:	None Given	
Hobbs NM, 88240	Project Manager:	Kristin Farris-Pope	

#### ANALYTICAL REPORT FOR SAMPLES

1. C. L.

1,421

See as

1.2.2.2

Trans.

10 and 10

. 6 . 9/6.

1. Sec.

. 7 K. 85.

4.00' Car

전화 옷은 부분

2.11

a de la construcción de la construc

1. N. 1.

.

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Monitor Well #1	6K03013-01	Water	11/01/06 08:35	11-03-2006 11:45
Monitor Well #2	6K03013-02	Water	11/01/06 10:35	11-03-2006 11:45
Monitor Well #3	6K03013-03	Water	11/01/06 09:40	11-03-2006 11:45

.

Page 1 of 10

Rice Operating Co. 122 W. Taylor Hobbs NM, 88240		Pr Project Nu Project Man	oject: EME mber: None nager: Krist	A-2 Leak Given in Farris-I	ope			Fax: (50	5) 397-1471
		Org	ganics by	GC					
		Environm	iental La	b of Te	xas				
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Not
Monitor Well #1 (6K03013-01) Water									
Benzene	ND	0.00100	mg/L	1	EK60807	11/08/06	11/08/06	EPA 8021B	
Foluene	ND	0.00100	11	"	и		"	"	
Ethylbenzene	ND	0.00100	н	u.	н	"	п	"	
Xylene (p/m)	ND	0.00100	н	н	н		"		
Xylene (o)	ND	0.00100		"	"	"	"	н	
Surrogate: a,a,a-Trifluorotoluene		84.8 %	80-12	0	"	"	"		•
Surrogate: 4-Bromofluorobenzene		83.2 %	80-12	0	"	"	"	"	
Monitor Well #2 (6K03013-02) Water									
Benzene	ND	0.00100	mg/L	1	EK60807	11/08/06	11/09/06	EPA 8021B	
Toluene	ND	0.00100	"		"	"	н	U.	
Ethylbenzene	ND	0.00100	"		"	n	н	Ш	
Xylene (p/m)	ND	0.00100	17			ц	"	u	
Xylene (o)	ND	0.00100	U	н	и	n	11	"	
Surrogate: a,a,a-Trifluorotoluene		83.5 %	80-12	0	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.8 %	80-12	0	"	"	u u	"	
Monitor Well #3 (6K03013-03) Water									
Benzene	ND	0.00100	mg/L	I	EK60807	11/08/06	11/09/06	EPA 8021B	
Toluene	ND	0.00100	н	ч	0		н	"	
Ethylbenzene	ND	0.00100		н	н	"		п	
Xylene (p/m)	ND	0.00100	u	и	n	"	11	п	
Xylene (o)	ND	0.00100		"	"	"		и	
Surrogate: a,a,a-Trifluorotoluene		90.0 %	80-12	20	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	80-12	20	"	"	"	"	

Environmental Lab of Texas

1.855. ac

X T. ANA

20000

34.00

1.5 80.5

10 S. C.

and a state

10.00

SC 2.2 V

\* 14 1 C

. .....

S. 4.5

1.000

T. Barton

The Cart

State of State

198 C

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

•

Page 2 of 10

Rice Operating Co. 122 W. Taylor Hobbs NM, 88240

S. X X .

1. A. S. S.

S. 2. Marines

Service Services

Salar an

ALL SAL

C. Martin

12.00

Sec. 1.

......

int action

12.2.5

242 200

S. 6.2

#### Project: EME A-2 Leak Project Number: None Given Project Manager: Kristin Farris-Pope

#### General Chemistry Parameters by EPA / Standard Methods

#### **Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
Monitor Well #1 (6K03013-01) Water									
Total Alkalinity	188	2.00	mg/L	I	EK60711	11/07/06	11/07/06	EPA 310.1M	
Chloride	3820	50.0	••	100	EK60602	11/06/06	11/06/06	EPA 300.0	
Total Dissolved Solids	6650	10.0	.,	1	EK60913	11/03/06	11/06/06	EPA 160.1	
Sulfate	225	50.0	"	100	EK60602	11/06/06	11/06/06	EPA 300.0	
Monitor Well #2 (6K03013-02) Water								• •	
Total Alkalinity	222	2.00	mg/L	1	EK60711	11/07/06	11/07/06	EPA 310.1M	
Chloride	2950	50.0	н	100	EK60602	11/06/06	11/06/06	EPA 300.0	
Total Dissolved Solids	4990	10.0	"	1	EK60913	11/03/06	11/06/06	EPA 160.1	
Sulfate	241	50.0	"	100	EK60602	11/06/06	11/06/06	EPA 300.0	
Monitor Well #3 (6K03013-03) Water									
Total Alkalinity	198	2.00	mg/L	I	EK60711	11/07/06	11/07/06	EPA 310.1M	·
Chloride	4250	50.0		. 100	EK60602	11/06/06	11/06/06	EPA 300.0	
Total Dissolved Solids	7680	10.0	"	1	EK60913	11/03/06	11/06/06	EPA 160.1	
Sulfate	232	50.0	"	100	EK60602	11/06/06	11/06/06	EPA 300.0	

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

Rice Operating Co.	Project: EME A-2 Leak	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	
Hobbs NM, 88240	Project Manager: Kristin Farris-Pope	

#### Total Metals by EPA / Standard Methods

#### **Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Monitor Well #1 (6K03013-01) Water			<u> </u>						
Calcium	1190	20.2	mg/L	250	EK60712	11/07/06	11/07/06	EPA 6010B	
Magnesium	394	3.60	**	100	"	н	п	11	
Potassium	18.7	0,600	н	10	••	"	n	n	
Sodium	1090	4.30	н	100	μ			81	
Monitor Well #2 (6K03013-02) Water									
Całcium	756	20.2	mg/L	250	EK60712	11/07/06	11/07/06	EPA 6010B	
Magnesium	265	9.00	"	"	"	н	"	11	
Potassium	17.4	0.600	"	10	**	u	n		
Sodium	1110	10.8	"	250	"	ч	н	U.	
Monitor Well #3 (6K03013-03) Water									
Calcium	1170	20.2	mg/L	250	EK60712	11/07/06	11/07/06	EPA 6010B	
Magnesium	414	3.60		100	н	н	"	11	
Potassium	22.0	0.600		10	н	Ŧ	"	**	
Sođium	1060	10.8	"	250	U.	**			

Environmental Lab of Texas

State a B

100

To State

100

and the second

2. 2. 2. 2

1 24 - 41 B

1. 2. N. 2. 1

A. Same

Sec. 2

ger and a

din on the

.

a the cost of

100 C

Parter

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

.

122 W. Taylor Hobbs NM, 88240	Project Number: None Given Project Manager: Kristin Farris-Pope	
122 W. Taylor	Project Number: None Given	

#### . 4-1 T - 1 - C T

Envir	onmental	Lad	01	rexas

	_	Reporting		Spike	Source	—	%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EK60807 - EPA 5030C (GC)										
Blank (EK60807-BLK1)				Prepared &	Analyzed:	11/08/06				
Benzene	ND	0.00100	mg/L							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00100	н							
Xylene (0)	ND	0.00100	"							
Surrogate: a,a,a-Trifluorotoluene	39.7		ug/l	40.0		99.2	80-120			
Surrogate: 4-Bromofluorobenzene	36.0		"	40.0		90.0	80-120			
LCS (EK60807-BS1)				Prepared &	Analyzed:	: 11/08/06				
Benzene	0.0505	0.00100	mg/L	0.0500		101	80-120			
Toluene	0.0455	0.00100	*	0.0500		91.0	80-120			
Ethylbenzene	0.0450	0.00100	0	0.0500		90.0	80-120			
Xylene (p/m)	0.0963	0.00100		0.100		96.3	80-120			
Xylene (o)	0.0469	0.00100		0.0500		93.8	80-120			
Surrogate: a,a,a-Trifluorotoluene	36.7		ug·l	40.0		91.8	80-120			
Surrogate: 4-Bromofluorobenzene	-12.3		"	40.0		106	80-120			
Calibration Check (EK60807-CCV1)				Prepared: I	1/08/06 A	nalyzed: 11	/09/06			
Benzene	53.7		ug/l	50.0		107	80-120			
Toluene	46.9		**	50.0		93.8	80-120			
Ethylbenzene	48.0		н	50.0		96.0	80-120			
Xylene (p/m)	93.1		"	100		93.1	80-120			
Xylene (0)	45.8		"	50.0		91.6	80-120			
Surrogate: a,a,a-Trifluorotoluene	41.4	· · · · · ·	"	40.0		104	80-120			
Surrogate: 4-Bromofluorobenzene	35.5		"	40.0		88.8	80-120			
Matrix Spike (EK60807-MS1)	Sou	ırce: 6K03002	-01	Prepared:	1/08/06 A	nalyzed: 1	1/09/06			
Benzene	0.0549	0.00100	mg/L	0.0500	ND	110	80-120			
Toluene	0.0474	0.00100	"	0.0500	ND	94.8	80-120			
Ethylbenzene	0.0462	0.00100		0.0500	ND	92.4	80-120			
Xylene (p/m)	0.0939	0.00100		0.100	ND	93.9	80-120			
Xylene (o)	0.0451	0.00100		0.0500	ND	90.2	80-120			
Surrogate: a,a,a-Trifluoroioluene	39.5		ug l	40.0		98.8	80-120			
Surrogate: 4-Bromofluorobenzene	37.4		"	40.0		93.5	80-120			

Environmental Lab of Texas

FURTH V

Sec. 1

States.

Sec. Les

States of

and the second

State of the second

1. A.

<u>م میں میں م</u>

A. ....

and the second

المراجع المراجع المراجع المراجع

للوهويد وال

. A. N.

Sec. Sec.

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

.

Rice Operating Co.	Project: EME A-2 Leak	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	
Hobbs NM, 88240	Project Manager: Kristin Farris-Pope	

#### **Organics by GC - Quality Control**

#### **Environmental Lab of Texas**

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

#### Batch EK60807 - EPA 5030C (GC)

1. S. M.

Service Sector

And a star

adat h

State of

1. S. Car

the grade of

- 19.30

Section 2

6 35 0

- 1618-45

19-19-18-

構造が

1. 1. A. 4

Matrix Spike Dup (EK60807-MSD1)	Sou	rce: 6K03002-	01	Prepared: 1	1/08/06 A	1/09/06			
Benzene	0.0554	0,00100	mg/L	0.0500	ND	111	80-120	0.905	20
Toluene	0.0504	0.00100		0.0500	ND	101	80-120	6.33	20
Ethylbenzene	0.0472	0.00100	и	0.0500	ND	94.4	80-120	2.14	20
Xylene (p/m)	0.105	0,00100		0.100	ND	105	80-120	11.2	20
Xylene (o)	0.0521	0.00100	"	0.0500	ND	104	80-120	14.2	20
Surrogate: a,a,a-Trifluorotoluene	39.4		ugʻl	40.0		98.5	80-120		
Surrogate: 4-Bromofluorobenzene	42,5		"	40.0		106	80-120		

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

ĺ	Rice Operating Co.	Project:	EME A-2 Leak	Fax: (505) 397-1471
	122 W. Taylor	Project Number:	None Given	
	Hobbs NM, 88240	Project Manager:	Kristin Farris-Pope	

#### General Chemistry Parameters by EPA / Standard Methods - Quality Control

#### **Environmental Lab of Texas**

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EK60602 - General Preparation (V	VetChem)									
Blank (EK60602-BLK1)				Prepared &	Analyzed:	11/06/06				
Chloride	ND	0.500	.mg/L				· ·		•	
Sulfate	ND	0.500	"							
LCS (EK60602-BS1)				Prepared &	Analyzed:	11/06/06				
Sulfate	9.30	0.500	mg/L	10.0		93.0	80-120			
Chloride	10.2	0.500	н	10.0		102	80-120			
Calibration Check (EK60602-CCV1)				Prepared &	k Analyzed:	11/06/06				
Chloride	10.0		mg/L	10.0		100	80-120			
Sulfate	10.9		"	10.0		109	80-120			
Duplicate (EK60602-DUP1)	Sou	rce: 6K03002	-01	Prepared &	k Analyzed:	11/06/06				
Sulfate	508	5.00	mg/L		511			0.589	20	
Chloride	45.8	5.00	11		45.4			0.877	20	
Duplicate (EK60602-DUP2)	Sou	rce: 6K03008	-04	Prepared &	& Analyzed:	11/06/06				
Chloride	44.5	5.00	mg/L		44.2			0.676	20	
Sulfate	116	5.00	"		115			0.866	20	
Matrix Spike (EK60602-MS1)	Sou	rce: 6K03002	-01	Prepared &	& Analyzed:	: 11/06/06				
Chloride	148	5.00	mg/L	100	45.4	103	80-120			
Sulfate	613	5.00	"	001	511	102	80-120			
Matrix Spike (EK60602-MS2)	Sou	rce: 6K03008	-04	Prepared &	& Analyzed:	: 11/06/06				
Chloride	150	5.00	mg/L	100	44.2	106	80-120			
Sulfate	214	5.00	"	100	115	99.0	80-120			

Environmental Lab of Texas

2. Tak - 2

調整部

8 34 - Log

the second of the

and the second

State and

يە مەرىپە ھەر

L good or

60036U

all designed

きます

1200

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

#### General Chemistry Parameters by EPA / Standard Methods - Quality Control

#### **Environmental Lab of Texas**

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EK60711 - General Preparatio	n (WetChem)									
Blank (EK60711-BLK1)				Prepared &	2 Analyzed	: 11/07/06				
Total Alkalinity	ND	2.00	mg/L							
LCS (EK60711-BS1)				Prepared &	2 Analyzed	: 11/07/06				
Total Alkalinity	202	2.00	mg/L	200		101	85-115			
Duplicate (EK60711-DUP1)	Sourc	e: 6K03008-	-01	Prepared &	k Analyzed	: 11/07/06				
Total Alkalinity	236	2.00	mg/L		240		1.68	20	· <u> </u>	
Reference (EK60711-SRM1)				Prepared &	k Analyzed	: 11/07/06				
Total Alkalinity	254		mg/L	250		102	90-110			<u></u>
Batch EK60913 - Filtration Preparati	on						1.4.4			
Blank (EK60913-BLK1)				Prepared:	11/03/06 A	analyzed: 1	/06/06			
Total Dissolved Solids	ND	10.0	mg/L							
Duplicate (EK60913-DUP1)	Sourc	ce: 6K03002-	-01	Prepared:	11/03/06 A	nalyzed: 1	1/06/06			
Total Dissolved Solids	954	10.0	mg/L		934			2.12	5	·
Duplicate (EK60913-DUP2)	Sourc	ce: 6K03014	-03	Prepared:	11/03/06 A	nalyzed: 1	1/06/06			
Total Dissolved Solids	1050	10.0	mg/L		946			10.4	5	F

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

Salary -

1-26-173

A. 6. 4

5-2:02

1000

Sec. 20

Part of the

a the state

Sec. Sugar

大学語など

Adam and a

16.00 m 20

Sarat an

1.181.18

Sec. 1

South State

Sec. 2

10 m 10 m

.2000

State of the second

-25.2 Se

يالد رياي ا

a frage

A CONTRACTOR

ang series

5- C.V

and the second

Sec.

1. 2 Carl

#### Project: EME A-2 Leak Project Number: None Given Project Manager: Kristin Farris-Pope

#### Total Metals by EPA / Standard Methods - Quality Control

#### **Environmental Lab of Texas**

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

#### Batch EK60712 - 6010B/No Digestion

Blank (EK60712-BLK1)				Prepared & A	Analyzed: 11/07/06				
Calcium	ND	0.0810	mg/L						
Magnesium	ND	0.0360	н						
Potassium	ND	0.0600	μ						
Sodium	NĎ	0.0430	н						
Calibration Check (EK60712-CCV1)				Prepared & A	Analyzed: 11/07/06				
Calcium	2.26		mg/L	2.00	113	85-115			
Magnesium	2.12			2.00	106	85-115			
Potassium	1.73		"	2.00	86.5	85-115			
Sodium	2.13		"	2.00	106	85-115			
Duplicate (EK60712-DUP1)	Sour	ce: 6K03002-	-01	Prepared & .	Analyzed: 11/07/06	·			
Calcium	84.4	0.810	mg/L		83.8		0.713	20	
Magnesium	40.5	0.360	0		38.9		4.03	20	
Potassium	7.74	0.600	н		8.13		4.91	20	
Sodium	110	2.15	н		117		6.17	20	

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

Rice Ope 122 W. T Hobbs N	rating Co. Faylor M, 88240	Project: Project Number: Project Manager:	EME A-2 Leak None Given Kristin Farris-Pope	Fax: (505) 397-147
	-	Notes and De	finitions	
R2	The RPD exceeded the acceptance limit.			
DET	Analyte DETECTED			
ND	Analyte NOT DETECTED at or above the reporting lit	nit		
NR	Not Reported			
dry	Sample results reported on a dry weight basis			
RPD	Relative Percent Difference			
LCS	Laboratory Control Spike			
MS	Matrix Spike			
Dup	Duplicate			

Report Approved By:

Service .

ALLE OF

14 A.

and a

and the second

41000

0.55.40

Sec. 1

1. 1. 2. 2 A.

Raland K Just Date:

Raland K. Tuttle, Lab Manager Celey D. Keene, Lab Director, Org. Tech Director Peggy Allen, QA Officer Jeanne Mc Murrey, Inorg. Tech Director LaTasha Cornish, Chemist Sandra Sanchez, Lab Tech.

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-563-1800.

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

11/17/2006

12 Jan 175					XICO		DES	ſ		113 113	8, 72	t ،۶۶ (۹۱۵۵۹۹۹، ۲AT HRUA) TAT bisbrid Z	×	×	×							-	ZZ	Z Z Z	N N ne Star	ပ္
					w Mex															╋	+	-	No.	003	ء م	
					Ne Ne				ľ		··	zolioz bevlozzi DistoT	×	×	×											5
		1800 1713			Cour		RRP					N.O.R.M.				-			_	+	_				H	Ø
	ST	-563-	eak		~ Lee				ц,	X	09	BLEX 80516/2030 or BTEX 82	×	×	×		+		-		╈	1.	er) 19	ner(s)	- - -	eipt:
	que	432	-2 L		62 A			4	, <u>7</u> е Г			səldelovimə2								1		Tents	s Intar dsnar	fr(s) contait cooler	vered nt Re	Reci
	S RE	ione: ax:	ME		S H		ard		Anal	+	95	Voluzies (BTEX.N 8260) Voluzies (BTEX.N 8260)	_	-		-	-		_		+		ainer Mea	s on (		Cpor
	'ASI:	a L	ш		S R3(		Stand	ł		TAL		SAR / ESP / CEC		-	-+	+		-	$\neg$		+	20	Cont	seal seal	Hand	ature
512°	1NA(				120		X			12		Anions (Cl. SO4, Alkalinity)	×	×	×							borat	mple Ce F	Sels of stody		mpen
	ą		ame:	ц Ц	Loc:	÷ 0	ţ;				L	Caŭons (Ca, Mg, Na, K)	×	<u>  × </u>	<u> ×</u>	-	-+	-+	_				Sai Sai	<u>205</u>	1 8 8 9 8 9 1	<u>–</u>
•	βDA		ct N	roje	ject	ц	ormi				acı	12H: 1X 1002 1X 1009				$\rightarrow$	+		+			-		a 3	a Ma	e X
4	COF		Proje		Pro		orF	1		<b>_</b>		NP=NonPolable Specify Cheft NP=NonPolable Specify Cheft				$\rightarrow$	_				-			é 4	F	
S. Sala	Y RE						Rep				Matrio	bloskos=2 pierdancia = Va	GW	QV	Mo									6		
_	Q		1	1	I	I	1					Outer ( openity)			_				-			-		Date -32	Date	1 C
100 CR	เรกะ			1	1			Ę				None (1) 1 Liter HDPE					-			+	-+-	-				10/3
	0F(	ist r65						St.Q			ntalnets	*O <sup>s</sup> S <sup>z</sup> BN			-		~+	-		+				<u> </u>		<u> </u>
<b>.</b>	AIN	20 Et s 797		· · .			E	orne			ta of Dc	HOPN														
	CH	st 1-5 Texa:					141	Val			vation &	*OS <sup>z</sup> H					_					_				
·#*		) We sa, T		Ì			-16	69 0	{		Preser	HCH (S) 40 ml dises visis	8	2	2					-+						
		260( )des					5) 3	ann					×	×	×			-+				4		2		
		4 U				1	(20	20.			1	Tolal #, of Containers	6	n	(m)	******						-		5		
							•					Field Fillered	_													St
# # 2 4 .			ε				Fax No:	e-mail:				bəlqms2 əmiT	3:35	0135	9:40									all a		100
			9.0	- 1			$\sum$	$\searrow$	1			· · · · · · · · · · · · · · · · · · ·								-+-		_		8		la s
y			ricesw				<u> </u>			2		bəlqms2 əte0	1/1/2006	1/1/2006	1/1/2006									eived by:	eived by:	PLL F
1987 1987	10		oope@			0ţ			1	and	/	digad paibn3		-	1					_	_	_		e Rec		e Rec
	(C)		Y	Ipan		8824		310	1	) \	2	វៀវqaQ ព្រារាពរៀទទ						-		-†	-	-1		10. 10		Ē
	Ô		e Se	БО СО	treet	ŭ.		)631- <u>5</u>					<u> </u>						-+	-		-		0		
of the second	р С С		<sup>-</sup> arris Po	perating	Taylor S	New Me.	93-9174	ahnson (505				14 m												Date 11-3-01	Date	Date
ت <u>ي قد من م</u>	<u>a</u> 2		Kristin	RICE C	122 W.	Hobbs,	(505) 3	Rozanne J			<b>ک</b>	LD CODE												$\left  \right\rangle$		
the france	n an		Aanager:	y Name	y Address:	e/Zip:	ne No:	Signature:	,		( ( ( ( ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( )	ц Щ ц	Vell #1	Well #2	Vell #3								۶ Ki	1	1 P	
	Viron		Project N	Compan	Compan	City/Stat	Telepho	Sampler	-	only)	R#: [0]		Monitor	Monitor	Monitor									ALC A	shed by:	shed by
	Ē									(lab use	ORDE	(Vino əsu dei) # 84.	F	6	50								special	Reinqui	Relinquis	inbul a
						• *							•		•											

Startin Pro

#### Environmental Lab of Texas Variance/ Corrective Action Report- Sample Log-In

Client:	Rive Op-
Date/ Time:	11/3/0le 11:45
Lab ID # :	<u>166020/3</u>
minitials:	PK-

1212-21-0

24.4

Start Bes

5.12 S ....

#### Sample Receipt Checklist

				Client Initi
#1	Temperature of container/ cooler?	Yes	No	0.5 °C
#2	Shipping container in good condition?	Yes)	No	
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	Not Present
#4	Custody Seals intact on sample bottles/ container?	1205	No	Not Present
#5	Chain of Custody present?	Yes	No	
#6	Sample instructions complete of Chain of Custody?	Ves	No	
#7	Chain of Custody signed when relinquished/ received?	Ves	No	
#8	Chain of Custody agrees with sample label(s)?	Yes	No	ID written on Cont./ Lid
#9	Container label(s) legible and intact?	Yeş	No	Not Applicable
<b>n</b> #10	Sample matrix/ properties agree with Chain of Custody?	Yes	No	
#11	Containers supplied by ELOT?	Yes	No	
#12	Samples in proper container/ bottle?	Xes	No	See Below
#13	Samples properly preserved?	(Tes	No	See Below
#14	Sample bottles intact?	Yes	No	
#15	Preservations documented on Chain of Custody?	Xes,	No	
_#16	Containers documented on Chain of Custody?	Yes	No	
#17	Sufficient sample amount for indicated test(s)?	(es	No	See Below
#18	All samples received within sufficient hold time?	Yes	No	See Below
#19	VOC samples have zero headspace?	Y/es)	No	Not Applicable

#### Variance Documentation

Contact:		Contacted by: D	bate/ Time:
Regarding:	·	·	
· · · · · · · · · · · · · · · · · · ·		·	
Corrective Action Taken	11		
		· · · · · · · · · · · · · · · · · · ·	
Check all that Apply:		See attached e-mail/ fax	
<b>2</b>		Client understands and would like to proceed with analy Cooling process had begun shortly after sampling event	sis
			<sup>1.</sup>
\$**		· · · · · ·	

.