

Rice Environmental Consulting & Safety

P.O. Box 5630 Hobbs, NM 88241 Phone 575.393.4411 Fax 575.393.0293 RECEIVED OCD

CERTIFIED MAIL RETURN RECIEPT NO. 7008 1140 0001 3070 5894

September 15th, 2011

Mr. Edward Hansen

New Mexico Energy, Minerals, & Natural Resources Oil Conservation Division, Environmental Bureau 1220 S. St. Francis Drive Santa Fe, New Mexico 87505

RE: ICP Report

Rice Operating Company – EME SWD System EME H-7 EOL (1R427-351): UL/H sec. 7 T20S R37E (formerly EME I-7 EOL)

Mr. Hansen:

RICE Operating Company (ROC) has retained Rice Environmental Consulting and Safety (RECS) to address potential environmental concerns at the above-referenced site in the EME Salt Water Disposal (SWD) system. The site was previously referred to as the EME I-7 EOL. However, GIS mapping shows the site to be located within unit letter H rather than unit letter I (Figure 1). To reflect the geographical location of the site, the name has been changed to the EME H-7 EOL. All correspondence will reference EME H-7 EOL.

ROC is the service provider (agent) for the 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 Parties, who provide all operating capital on a percentage/usage basis.

For all such environmental projects, ROC will choose the 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 generally have three submissions:

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

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

Background and Previous Work

The site is located approximately 2.5 miles south-west of Monument, New Mexico at UL/H sec. 7 T20S R37E as shown on the Site Location Map. NM OSE records indicate that groundwater will likely be encountered at a depth of approximately 26 +/- feet.

In 2010, ROC initiated work on the former EME H-7 EOL junction box. The site was delineated using a backhoe to form a 30 ft x 30 ft x 12 ft deep excavation and soil samples were screened at regular intervals for both hydrocarbons and chlorides. From the excavation, the four-wall composite, the bottom composite and the backfill were taken to a commercial laboratory for analysis. Laboratory tests of the four-wall composite showed a chloride reading of 384 mg/kg and negligible gasoline range organics (GRO) and a diesel range organics (DRO). The bottom composite showed a chloride laboratory reading of 624 mg/kg and negligible GRO and DRO readings. The excavated soil was blended on site. Laboratory analysis of the blended backfill showed a chloride reading of 352 mg/kg and negligible GRO and DRO readings. At 12-11 ft below ground surface (bgs), a 1 foot clay layer was installed to inhibit downward migration of chlorides in the soil. A clay compaction test was performed on March 25th, 2010. The remaining excavation was backfilled with the blended backfill to ground surface. The area was contoured to the surrounding landscape and seeded.

To further investigate the site, a soil bore was advanced 10 ft south of the former junction box (source) on June 10th, 2010 to 24 ft bgs with samples collected every three feet. The samples were field tested for both chlorides and hydrocarbons. The 21 ft and 24 ft samples were taken to a commercial laboratory to be analyzed. Both samples showed negligible GRO and DRO readings. Chloride concentrations showed 912 mg/kg in the 21 ft sample and 1,120 mg/kg in the 24 ft sample. The bore was plugged in entirety with bentonite.

NMOCD was notified of potential groundwater impact on October 5th, 2010 and a junction box disclosure report was submitted to NMOCD with all the 2010 junction box closures and disclosures.

ROC proposed additional investigative work at the site to determine if there is potential for groundwater degradation from residual chlorides and hydrocarbons at the site.

Proposed Work Elements

- 1. Conduct vertical and lateral delineation of residual soil hydrocarbons and chlorides from samples taken using a drill rig, hand auger, and/or backhoe (see Appendix B for Quality Procedures).
 - a. Vertical sampling will be conducted until the following criteria are met in the field.

- i. Three samples in which the chloride concentration decreases and the third sample has a chloride concentration of ≤ 250 ppm; and,
- ii. Three samples in which PID readings decrease and the third sample has a PID reading of ≤ 100 ppm; or,
- iii. The sampling reaches the capillary fringe.
- b. Lateral sampling will be conducted until the following criteria are met in the field.
 - i. A decrease is observed in chloride concentrations between lateral bores at similar depths; and,
 - ii. A chloride concentration of ≤ 250 ppm is observed in a lateral surface sample; or,
 - iii. Safety concerns impede further lateral delineation.
- 2. If warranted, install a monitor well to provide direct measurement of the potential groundwater impact at the site. (All monitor wells will be installed by EPA, NMOCD, and industry standards.)
- 3. Evaluate the risk of groundwater impact based on the information obtained.

ICP Investigative Results

As part of the Investigation and Characterization Plan approved by NMOCD on July 21st, 2011, seven soil bores were advanced at the site to a depth of 24 ft (Figure 2). The soil bores were sampled every three feet. The samples were tested in the field for chlorides and screened in the field with a photo-ionization detector for hydrocarbons. Representative samples from each bore were taken to a commercial laboratory for analysis of chlorides and hydrocarbons. Chloride readings ranged from a high of 1,060 mg/kg at 21 ft bgs in SB-8 to a low of 128 at 24 ft bgs in SB-5. GRO readings at all depths in all bores were non-detect. DRO readings were also non-detect in all samples, except for at 24 ft bgs in SB-8 where the DRO reading was 11.9 mg/kg (Appendix A and B).

On August 30th, 2011, two monitor wells (MW-1 and MW-2) were installed at the site. MW-1, the near-source well, is located approximately 43 ft south southeast from the former junction box site and MW-2, the up gradient well, is located approximately 101 ft northwest of the former junction box site. Soil samples were collected every three feet from each well and tested in the field for chlorides and screened in the field with a photo-ionization detector for hydrocarbons. Representative samples from each well were taken to a commercial laboratory for analysis of chlorides and hydrocarbons. Laboratory chloride readings in MW-1 decreased from 736 mg/kg at 18 ft bgs to 576 mg/kg at 24 ft bgs. GRO and DRO readings were non-detect for both samples in MW-1. Chloride and TPH readings from MW-2 are representative of background concentrations in the area. Laboratory analysis of the 12 ft bgs. GRO and DRO readings were non-detect and DRO readings were non-detect in a chloride concentration of 528 mg/kg and 128 mg/kg at 24 ft bgs. GRO and DRO readings were non-detect and DRO readings were non-detect in the 12 ft sample and in the 24 ft sample, GRO was non-detect and DRO had a concentration of 16.5 mg/kg (Appendix B).

The newly installed monitoring wells will be sampled and analyzed according to NMOCD requirements. Once groundwater samples are obtained and groundwater quality has been fully delineated, a Corrective Action Plan (CAP) will be submitted to the NMOCD. The CAP will include a vadose zone remedy and groundwater remedy, if warranted.

ROC appreciates the opportunity to work with you on this project. Please call Hack Conder at (575) 393-9174 or me if you have any questions or wish to discuss the site.

Sincerely,

JC.W.

Lara Weinheimer Project Scientist RECS (575) 441-0431

Attachments:

Figure 1 – Site map

Figure 2 – Soil bore and MW installation

Appendix A – SB-1 through SB-6 installation and laboratory confirmation Appendix B – SB-7, SB-8, MW-1 and MW-2 installation and laboratory confirmation



Figures

RICE Environmental Consulting and Safety (RECS) P.O. Box 5630 Hobbs, NM 88241 Phone 575.393.4411 Fax 575.393.0293

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Site Map





Appendix A

SB-1 through SB-6 installation and laboratory confirmation

RICE Environmental Consulting and Safety (RECS) P.O. Box 5630 Hobbs, NM 88241 Phone 575.393.4411 Fax 575.393.0293

Logger:	J	ordan Wo	odfin		OPER	ATING CO.
Driller:	Harri	son & Coo Drilling	per, Inc.		ALCE	AND RANK
Consulta	nt:	A junctior upgrade p	n box Ian	SB-1 ©	Б	ICE 1955
Drilling N	Method:	Air rotar	у			
Start Dat	e:	6/10/201	0	0 5 10 20 Feet	Sec. 1.	
End Date	ə:	6/10/201	0		Project Name:	Well ID:
Comme	ents: All s the f TD = 2	amples f former ju Drafte 4 ft	from cutt Iction bo d by: Lara	tings. Located 10 ft south of x site. Weinheimer DGW = 26 ft	EME I-7 E0 Location: UI Lat: 32°35'18.71 Long: 103°17'6.0	SB-1 ./I sec. 7 T20S R37E 5"N County: Lea 679"W State: NM
Depth (feet)	chloride field tests	LAB	PID	Description	Lithology	Well Construction
				12 - 15 ft SAND		
15 ft	797	1	10.1	tan		
				15 - 18 ft		
				SAND		
18 ft	637	1.1.1.1	16.4	dark tan		
				18 - 21 ft		bentonite
				SAND		seal
21 ft	889	Cl- 912	18.8	tan		
		GRO				
		DRO <10		21 - 24 ft		
24 ft	925	CI- 1120	23.1	SAND		
		GRO <10		dark tan		
		<10				



Logger: Driller:	Har	Jordan Woo rison & Coo	odfin per, Inc.	SB-6 SB-6 SB-6 SB-2 SB-5		Solution of the second s	REC.	MTAL S
Drilling I Start Dat End Date	Method: te: e:	Air rotar 7/11/201 7/11/201	y 1 1	30 ft disy layer @ 12 ft \$B-1 \$SB-4 @	Pro	Dject Name: EME H-7 E	OL	Well ID: SB-2
Comme	ents: Loca TD =	All sam DRA	SOUICE	e of the former junction box site. vere from cuttings. Y: L. Weinheimer GW = 26 ft	Lat	cation: UL/H s 1: 32°35'18.924 ng: 103°17'6.5	ec. 7 12 -"N 592"W	County: Lea State: NM
Depth (feet)	Chloride field test	s LAB	PID	Description		Lithology	Well	Construction
15 ft 18 ft	437	Cl- 320 GRO <10 DRO <10	0	Light brown to tan very fine silty sand with some caliche				bentonite
21 ft	405		0	Tan very fine silty sand				seal
24 ft	459	CI- 688 GRO <10 DRO <10	0					

Logger: Driller:		Jo Harrise	rdan Woo on & Coo	odfin per, Inc.	SB-6 SB-6 site marker SB-2 SB-5		PICK R	ECS	e
Drilling I Start Dat End Date	Method: te: e:	1	Air rotar 7/11/201 7/11/201	y 1 1	30 π 	Project Name: Well ID: EME H-7 EOL SB-3 Project Consultant: RECS		Well ID: SB-3	
Comme	ents: Lo	$D = 2^4$	d 20 ft n All sam DRAI 4	orth of ples w FTED B	the former junction box site. ere from cuttings. Y: L. Weinheimer GW = 26 ft	Loc Lat Lor	cation: UL/H s : 32°35'19.116 ng: 103°17'6.5	ec. 7 T20 "N 577"W	S R37E County: Lea State: NM
Depth (feet)	Chlo field	ride tests	LAB	PID	Description		Lithology	Well	Construction
SS	20)7		0	Brown very fine sand				
3 ft	20	13		0	Tan very fine sand				
6 ft	28	9		0					
9 ft	87	′1		0	Tan very fine silty sand				
12 ft	91	5	CI- 288 GRO <10 DRO	0					bentonite seal
15 ft	58	37	<10	0					
18 ft	66	9		0	Tan very fine sand with some caliche				
21 ft	54	8		0					
24 ft	58	4	Cl- 512 GRO	0					
	×		<10 DRO <10						

Logger: Driller:	н	Jordan Woo arrison & Coo	odfin per, Inc.	SB-3 SB-6 SB-6 SB-2 SB-5		Cone	RECS	te
Drilling I Start Date End Date Comme	Method: te: e: ents: Loc	Air rotar 7/11/201 7/11/201 ated 25 ft s	y 1 outh of	the former junction box site.	Pr Pr Lo	oject Name: EME H-7 E oject Consulta cation: UL/H s	OL ant: RECS sec. 7 T20	Vell ID: SB-4 S R37E
i den i	TD	DRA = 24	FTED BY	: L. Weinheimer GW = 26 ft	La	t: 32°35'18.67 ng: 103°17'6.	6"N 63"W	County: Lea State: NM
Depth (feet)	Chlorid field tes	de sts LAB	PID	Description		Lithology	Well C	Construction
SS	175		0	Brown very fine sand				
3 ft	182		0					
6 ft	275	-	0					
9 ft	367		0	Tan fine sand with small caliche fragments				
12 ft	770	CI- 960 GRO <10	0					bentonite seal
15 ft	691	<10	0					
18 ft	478		0					
21 ft	429		0	Brown to tan medium sand with				
24 ft	478	CI- 688 GRO	0	gravel	-			
		<10 DRO <10			1			

Logger: Driller:	н	Jordan Iarrison &	Woodf Coope	fin r, Inc.	SB-6 SB-6 SB-5 SB-5		ale Control	RECS	LE LE
Drilling I Start Dat End Date	Method: te: e:	Air r 7/11 7/11	rotary /2011 /2011		30 ft citey layer @ 12 ft \$\$B-1 \$\$B-4 \$\$	Pr Pr	roject Name: EME H-7 E roject Consulta	OL ant: RECS	Well ID: SB-5
Comme	ents: Loc	ated 21 All s = 24	n eas sampl DRAFT	es were ED BY: L	former junction box site. e from cuttings. Weinheimer GW = 26 ft	La	at: 32°35'18.871	sec. 7 120 1"N 37"W	County: Lea State: NM
Depth (feet)	Chlorid field test	de sts LA	AB	PID	Description		Lithology	Well (Construction
22	175		+		Brown very fine sand				
	175	-			Tan medium sand				
3 ft	182			0					
6 ft	173			0	Tan very fine sand				
9 ft	457		-	0					
12 ft	429			0	Tan very fine silty sand				bentonite
		5							seal
15 ft	640	C 44 GF <1 DF	RO 10 RO	0	Tan fine sand with caliche				
18 ft	391	<1	10	0					
21 ft	429			0					
24 ft	378	C 12 GF	28 RO	0	Light brown very fine sand				
		<1 DF <1	RO 10						

Logger: Driller:		Jo Harriso	rdan Woo on & Coo	odfin per, Inc.	SB-3 SB-6 ste marker SB-2			RECS	The state
Drilling I Start Date	Method: te: e:		Air rotar 7/11/201 7/11/201	y 1 1	30 ft SB-1 SB-4 SB-4	Project Name: Well ID: EME H-7 EOL SB-6 Project Consultant: RECS		Well ID: SB-6	
Comme	ents: Lo	D = 24	d 18 ft w All sam DRAI 4	vest of the ples were FTED BY: I	e former junction box site. e from cuttings. L. Weinheimer GW = 26 ft	Lo La Lo	cation: UL/H s t: 32°35'18.961 ng: 103°17'6.8	ec. 7 T20 "N 319"W	S R37E County: Lea State: NM
Depth (feet)	Chlor field to	ride ests	LAB	PID	Description		Lithology	Well	Construction
					Brown very fine sand				
SS	169	9		0					
3 ft	17	7		0	Tan medium sand				
6 ft	30	1		0	Tan very fine sand				
9 ft	94	6	CI- 928	0					
			<10 <10 DRO <10		Tan very fine silty sand				bentonite
12 ft	670	0		0					seal
15 ft	86	5		0	Tan fine sand with caliche				
18 ft	69	7		0					
21 ft	618	3	1	0					
24 ft	314	4	CI- 272 GRO	0	Light brown very fine sand				
2.1	1		<10 DRO <10						

Contra State



ANALYTICAL RESULTS FOR RICE OPERATING COMPANY ATTN: HACK CONDER 112 W. TAYLOR HOBBS, NM 88240

Receiving Date: 06/11/10 Reporting Date: 06/17/10** Project Number: NOT GIVEN Project Name: EME I-7 EOL Project Location: EME I-7 EOL Sampling Date: 06/10/10 Sample Type: SOIL Sample Condition: COOL & INTACT Sample Received By: JH Analyzed By: AB/CK

GRO DRO (C₆-C₁₀) (>C₁₀-C₂₈) CI* (mg/kg) (mg/kg) (mg/kg)

LAB NUMBER SAMPLE ID

ANALYSIS DATE	06/12/10	06/12/10	06/15/10
H20095-1 SB #1 @ 21'	<10.0	<10.0	912
H20095-2 SB #1 @ 24"	<10.0	<10.0	1,120

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Quality Control	461	423	500
True Value QC	500	500	500
% Recovery	92.2	84.6	100
Relative Percent Difference	1.7	0.4	< 0.1

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; CI': Std. Methods 4500-CI'B *Analyses performed on 1:4 w:v aqueous extracts.

Reported on wet weight.

REVISED REPORT. Chemist

H20095 TCL RICE

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or bit, chall be limited to the amount paid by client for energy and client and the amount paid by client for energy and client and the amount paid by client for energy and client in an energy and client in a static and the amount paid by client for energy and client in a static and the amount paid by client for energy and client in a static and the amount paid by client for energy and the amount paid by client for energy and any other cause whatsoever shall be deemed walved unless made in white and the contract by Cardinal within unity (30) days after completion of the opplicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, white i limitation, business interruptions, for an event shall cardinal be liable for incidental or consequential damages, including, which i limitation, business interruptions, for an event shall cardinal be liable for incidental or consequential damages, including, which i limitation, business interruptions, they of the above stated reasons of otherwise. Result and successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons of otherwise. Result relate only to the above stated reasons of otherwise. Result related only to the above stated reasons of otherwise. Result related only to the above stated reasons of otherwise.

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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RDINAL LABORATORIES 101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603

Company Name:	Rice Operating Company		BILLTO	► batter Ellandiat Allone Attornes		ANA	LYSIS REQUEST	
Project Manager	tt: Hack Conder		P.O. #:					
Address: 122.1	West Tavlor		Company:			S		
city: Hobbs	State	:: NM Zip: 88240	Attn:			uo		
Phone #: 393-9	174. Fax #:	397-1471	Adḋress:			iu⁄		
Project#:	Projec	:t Owner:	city:	2	Ŵ	//s H		
Project Name: E	EME 1-7 EOL		State:∖ Zipï	sər	X SI	id		
Project Location	IL EME I-7 EOL		Phone #:	oric	E)	l s bite		
Sampler Name:	Jordan Woodfin		Fax #:	SIL	3 F 78	C: ex		
FOR LABUSE ONLY		MATRIX	PRESERV SAMPLIN	S S		(Ə)		
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July 15, 2011

Hack Conder Rice Operating Company 112 W. Taylor Hobbs, NM 88240

RE: EME H-7 EOL

Enclosed are the results of analyses for samples received by the laboratory on 07/12/11 8:02.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydorcarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keine

Celey D. Keene Lab Director/Quality Manager



Rice Operating Company Hack Conder 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

Received:	07/12/2011	Sampling Date:	07/11/2011
Reported:	07/15/2011	Sampling Type:	Soil
Project Name:	EME H-7 EOL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB 2 @ 15 FT (H101432-01)

Chioride, SM4500CI-B	mg/	кд	Analyze	а ву: нм					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	07/13/2011	ND	448	112	400	0.00	
TPH 8015M	mg/	'kg	Analyze	d By: ab					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/14/2011	ND	180	90.1	200	0.128	
DRO >C10-C28	<10.0	10.0	07/14/2011	ND	170	85.0	200	0.178	
Surrogate: 1-Chlorooctane	98.2	% 70-130							
Surrogate: 1-Chlorooctadecane	108 9	% 70-130)						

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Sample ID: SB 2 @ 24 FT (H101432-02)

Chloride, SM4500CI-B	mg/	kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	688	16.0	07/13/2011	ND	448	112	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: ab					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/14/2011	ND	180	90.1	200	0.128	
DRO >C10-C28	<10.0	10.0	07/14/2011	ND	170	85.0	200	0.178	
Surrogate: 1-Chlorooctane	100 9	% 70-130							
Surrogate: 1-Chlorooctadecane	1119	% 70-130							

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidential or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager

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Rice Operating Company Hack Conder 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

Received:	07/12/2011	Sampling Date:	07/11/2011
Reported:	07/15/2011	Sampling Type:	Soil
Project Name:	EME H-7 EOL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB 3 @ 12 FT (H101432-03)

Chloride, SM4500CI-B	mg/	kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	07/13/2011	ND	448	112	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: ab					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/14/2011	ND	180	90.1	200	0.128	
DRO >C10-C28	<10.0	10.0	07/14/2011	ND	170	85.0	200	0.178	
Surrogate: 1-Chlorooctane	104 9	% 70-130		- 1999 - 1					
Surrogate: 1-Chlorooctadecane	117 9	70-130							

Sample ID: SB 3 @ 24 FT (H101432-04)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	512	16.0	07/13/2011	ND	400	100	400	3.92	
TPH 8015M	mg,	/kg	Analyze	d By: ab					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/14/2011	ND	180	90.1	200	0.128	
DRO >C10-C28	<10.0	10.0	07/14/2011	ND	170	85.0	200	0.178	
Surrogate: 1-Chlorooctane	99.5	% 70-130					· · · · · · · · · · · · · · · · · · ·		
Surrogate: 1-Chlorooctadecane	109	% 70-130							

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Celez D. Kune

Celey D. Keene, Lab Director/Quality Manager



Rice Operating Company Hack Conder 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

Received:	07/12/2011	Sampling Date:	07/11/2011
Reported:	07/15/2011	Sampling Type:	Soil
Project Name:	EME H-7 EOL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB 4 @ 12 FT (H101432-05)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	960	16.0	07/13/2011	ND	400	100	400	3.92	
TPH 8015M	mg,	/kg	Analyze	d By: ab					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/14/2011	ND	180	90.1	200	0.128	
DRO >C10-C28	<10.0	10.0	07/14/2011	ND	170	85.0	200	0.178	
Surrogate: 1-Chlorooctane	104	% 70-130							
Surrogate: 1-Chlorooctadecane	112	% 70-130	,						

Sample ID: SB 4 @ 24 FT (H101432-06)

Chloride, SM4500Cl-B	mg/	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	688	16.0	07/13/2011	ND	400	100	400	3.92	
TPH 8015M	mg/	/kg	Analyze	d By: ab					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/14/2011	ND	180	90.1	200	0.128	
DRO >C10-C28	<10.0	10.0	07/14/2011	ND	170	85.0	200	0.178	
Surrogate: 1-Chlorooctane	101 9	% 70-130	I						
Surrogate: I-Chlorooctadecane	109 5	% 70-130	I.						

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Celey D. Keene, Lab Director/Quality Manager



Rice Operating Company Hack Conder 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

Received:	07/12/2011	Sampling Date:	07/11/2011
Reported:	07/15/2011	Sampling Type:	Soil
Project Name:	EME H-7 EOL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB 5 @ 15 FT (H101432-07)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	448	16.0	07/13/2011	ND	400	100	400	3.92	
TPH 8015M	mg,	/kg	Analyze	d By: ab					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/14/2011	ND	180	90.1	200	0.128	
DRO >C10-C28	<10.0	10.0	07/14/2011	ND	170	85.0	200	0.178	
Surrogate: 1-Chlorooctane	98.7	% 70-130)						
Surrogate: 1-Chlorooctadecane	111	% 70-130)						

Sample ID: SB 5 @ 24 FT (H101432-08)

Chloride, SM4500CI-B	mg	/kg	Analyze	ed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	07/13/2011	ND	400	100	400	3.92	
TPH 8015M	mg	/kg	Analyze	ed By: ab					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/14/2011	ND	180	90.1	200	0.128	
DRO >C10-C28	<10.0	10.0	07/14/2011	ND	170	85.0	200	0.178	
Surrogate: 1-Chlorooctane	99.9	% 70-130)						
Surrogate: 1-Chlorooctadecane	108	% 70-130	1						

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Celez D. Kune

Celey D. Keene, Lab Director/Quality Manager



Rice Operating Company Hack Conder 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

Received:	07/12/2011	Sampling Date:	07/11/2011
Reported:	07/15/2011	Sampling Type:	Soil
Project Name:	EME H-7 EOL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB 6 @ 9 FT (H101432-09)

Chloride, SM4500CI-B	mg/	'kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	928	16.0	07/13/2011	ND	400	100	400	3.92	
TPH 8015M	mg/	'kg	Analyze	d By: ab					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/15/2011	ND	180	90.1	200	0.128	
DRO >C10-C28	<10.0	10.0	07/15/2011	ND	170	85.0	200	0.178	
Surrogate: 1-Chlorooctane	105 \$	% 70-130							
Surrogate: 1-Chlorooctadecane	114 9	% 70-130							

Sample ID: SB 6 @ 24 FT (H101432-10)

Chloride, SM4500CI-B	mg/	kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	07/13/2011	ND	400	100	400	3.92	
TPH 8015M	mg/	kg	Analyze	d By: ab				· · · • –	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/15/2011	ND	180	90.1	200	0.128	
DRO >C10-C28	<10.0	10.0	07/15/2011	ND	170	85.0	200	0.178	
Surrogate: 1-Chlorooctane	109 %	% 70-130							
Surrogate: I-Chlorooctadecane	118 %	% 70-130							

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Celeg D. Kune

Celey D. Keene, Lab Director/Quality Manager



Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500CI-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager

Page 8 of 8

ADINAL LABORATORIES 101 East Narland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603	(505) 393-2326 FAX (505) 293-2476 (325) 573-7001 FAX (325) 573-7020 ¹⁰⁶¹ Bira Onerativi Converve				-333-9174 Fax #: 575-397-1471 Address:	Project Owner:			is: Jordan Woodfin					V SB 2 @ 24) SB 3 @ 12	SB 3 @ 24'	SB4@12				38600 332602k	r and Duranges. Constructions and device states and an antiperformance of a second		1×10^{-1}	The was which we what we want the second sec	N: (Crole One) 0.000 Sample Condition CHECKED BY: Hoonder@riceswd.com; jwoodfin@rice-ecs.com; Coel Intact Antipla) I weinheimer@rice-ecs.com kiones@riceswd.com		al cannot accept verbal changes. Please fax written changes to 505-393-2476	
ARDINAL L	(505) 393-2 company Name: Rive Onerial	roject Manager: Hack Cond	Nddress: 122 West Taylor	VIV: MODOS	hone #: 575-393-9174	Project #:	Project Name: EME H-7 EOL	roject Location: EME H-7 F	ampler Name: Jordan Wood	FOR LAR USE ONLY	Lab I.D. San	H101434) SB 2 @ 15ft	2) SB 2 @ 24'	S ISB 3@ 12'	4 SB 3 @ 24'	J SB 4@ 12	Q 58 4 @ 24'	1 SB 5 @ 15	2 SH 5 @ 24'	7 58 6 @ 9 10 S.2 6 @ 24	LEASE NOTE: LEUMARY and Durrupper. Curditario B Inibres. Al claints: hublicing those for registence a evice. In no curat shell condision to hubbe to hubbe	fillation of successors sainly and star estated to the			Delivered By: (Cicle One)	Sampler - UPS - Bus - Othe	† Cardinal cannot accept	

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Appendix B SB-7, SB-8, MW-1, and MW-2 installation and laboratory confirmation

RICE Environmental Consulting and Safety (RECS) P.O. Box 5630 Hobbs, NM 88241 Phone 575.393.4411 Fax 575.393.0293

				1	MW 2			ENVIRONME	VT-			
Logger:		Ky	le Norm	an	/io		FIS	REC				
Driller:	F	larrisor	n & Coop	per, Inc.	0 e58,6		CONSU	LTING & SAFE	Y, LLE			
Drilling N	Method:	A	Air rotary	y	plugged well head 30 ft @SB-6	Pr	piect Name:		Well ID:			
Start Dat	Start Date: 8/30/2011		1	30 ft day layer g 12 ft	EME H-7 EOL SB-7							
End Date	e:	8	/30/201	1	©\$8-4 ©\$8-7 	Project Consultant: RECS						
Comme	ents: All s	sampl	es wer	re from of the	cuttings. The soil bore was	Lo	cation: UL/H s	sec. 7 T20)S R37E			
	iocal	.cu 02	DRAF	TED BY:	L. Weinheimer	La	t: 32°35'18.60	9"N	County: Lea			
Depth	Chlori	= 24 f	t		GW = 26 ft		ng: 103°17'6.6	552"W	State: NM			
(feet)	field te	sts	LAB	PID	Description		Lithology	Well	Construction			
						1						
SS	89			0.3								
		-										
3 ft	294			3.9								
6.44	220	-		117								
011	220			11.7								
0.#	247			6.4								
911	347			0.4	T F O							
	-2-4-6				I an Fine Silt							
12 ft	608		CI- 608	0.9					bentonite			
			GRO <10			1.			seal			
			DRO <10									
15 ft	508			3.3								
	No.Pro											
	070	-										
18 ft	373			2.5								
01.0												
21 ft	5/4			5.5								
			CI-									
24 ft	533		528 GRO	6	Red Fine Silt	1						
		-	<10 DRO									
			<10						U			

Logger:Kyle NormanDriller:Harrison & Cooper, Inc.Drilling Method:Air rotaryStart Date:8/30/2011End Date:8/30/2011			Kyle Norn on & Coc	nan oper, Inc.	MW 2	RECS ONSULTING & SAFETY, LLC					
			Air rotar 8/30/201 8/30/201	ry 11 11 ere from	cuttings. The soil bore was	Project Name: EME H-7 EOL Project Consultant: RE			Well ID: SB-8 ECS T20S B37F		
	located 26 ft north of th DRAFTED BY TD = 24 ft				e former junction box site. : L. Weinheimer GW = 26 ft	Lat: 32°35'19.179"N Long: 103°17'6.59"W			County: Lea State: NM		
Depth (feet)	oth Chloride field tests LAB PID		LAB PID Description				Lithology	Wel	I Construction		
SS	116	-		0.0	Tan Fine Silt						
0.0					Tan Fine with some Caliche and Silt						
3 ft	118	_		2.5							
6 ft	146			4.4	Tan Fine Silt						
9 ft	819		CI- 944	2.0							
			<10 DRO <10						bentonite		
12 ft	548			4.1	Tan Fine with some Caliche and Silt				seal		
15 ft	510			3.2							
18 ft	531			4.8	Tan Fine Silt						
			CI-								
21 ft	882		1060 GRO <10 DRO	3.5	Tan Fine with some Caliche and Silt						
24 ft	385		<10 CI- 592 GBO	10.8							
			<10 DRO 11.9								

Logger:Kyle NormanDriller:Harrison & Cooper, Inc.Drilling Method:Air rotaryStart Date:8/30/2011End Date:8/30/2011		Kyle Norman Harrison & Cooper, Inc.			MW2	RECS						
		y 1 1	plugged well head 30 ft @SB-3 30 ft @SB-3 (SB-6 sSB-2 (alsy large 12 @SB-4 @SB-5 (SB-7 wW 1	Project Name: Well ID: EME H-7 EOL MW- Project Consultant: RECS								
Comme	ents: All ft so TD	sam outh s s=71	ples we southea DRA	ere from ast of th FTED BY	e cuttings. MW-1 is located 42 e former junction box site. 7: L. Weinheimer GW = 26 ft	Location: UL/ Lat: 32 35'18. Long: 103 ୩7'	H sec. 7 T20S 534"N C 6.44"W S	R37E County: Lea State: NM				
Depth (feet)	Chlor field to	ride ests	LAB	PID	Description	Lithology	Well Cor	nstruction				
SS	174	4		0.2	Tan Fine Silt							
					Brown Fine with some Caliche and Silt							
3π 6 ft	15:	6		3.7	Tan Fine Silt							
9 ft	214	4		13			4 in PVC	seal				
12 ft	399	9		13.4	Tan Fine with some Caliche and Silt							
15 ft	370)		3.3								
18 ft	530)	CI- 736 GRO <10	2.7	Tan Fine Silt							
21 ft	466	6	<10	1.7								

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
24 ft	588	CI- 576	1.5			
		GRO				
		DRO				
		<10	-			
25 ft		-				
		200				
30ft						
	4					
35 ft		1				
	and the sta					bnea
40.4						Sand
40 ft	-			NO SAMPLES TAKEN		раск
4						
20						
45 ft		1.1				
	S					
1	Sec. 14					
50 ft		14 - E				
	and the	300				
55 ft	Start St.					
	all the second					
	12.2.5					
60.44						
60 ft	13 19 1 M 1					
65 ft						
70 ft	-					
71 ft						J

Logger: Driller:	н	Ky Iarrisol	yle Norm n & Coo	an per, Inc.	MW 2	Date .	RECS	LEE		
Drilling Method: Start Date: End Date: Comments: All sam		ہ samp	Air rotar 8/30/201 8/30/201 Dies we	y 1 1 re from	cuttings. MW-2 is located 101	Project Name: EME H-7 E Project Consulta Location: UL/H	W OL ant: RECS sec. 7 T205	Well ID: MW-2 CS T20S B37E		
	ft TD =	north = 41 1	hwest o DRAN	of the fo	ormer junction box site. 7: L. Weinheimer GW = 26 ft	Lat: 32 35'19.64 Long: 103 ୩7'7.4	7"N 427"W	County: Lea State: NM		
Depth (feet)	Chlorid field tes	de sts	LAB	PID	Description	Lithology	Well C	onstruction		
					Brown Fine Silt					
SS	89	-		0.5						
0.4	405	100		00.5	Tan Fine with some Caliche and Silt					
3 11	425			38.5		R C				
6 ft	387			35.2	Yellowish I an Fine Silt	2 in Py				
		-	<u>.</u>					bentonite		
9 ft	435	-		19.7				seal		
12 ft	494		CI- 528	11.5						
			GRO <10 DRO <10		i an Fine with some Galiche and Silt					
15 ft	317			11.3						
18 ft	477			6.5						
21 ft	182			37.5	Red Fine Silt					

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Con	struction
		GRO <10 DRO 16.5					
25 ft							sand
30ft				NO SAMPLES TAKEN			раск
35 ft							
40 ft 41 ft							



September 09, 2011

Hack Conder Rice Operating Company 112 W. Taylor Hobbs, NM 88240

RE: EME H-7 EOL (20/37)

Enclosed are the results of analyses for samples received by the laboratory on 08/30/11 16:10.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydorcarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celeg D. Keine

Celey D. Keene Lab Director/Quality Manager



Rice Operating Company Hack Conder 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

Received:	08/30/2011	Sampling Date:	08/30/2011
Reported:	09/09/2011	Sampling Type:	Soil
Project Name:	EME H-7 EOL (20/37)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SOIL BORE #7 @ 12' (H101842-01)

Chloride, SM4500CI-B	mg/kg		Analyze	Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	608	16.0	08/31/2011	ND	432	108	400	0.00	
TPH 8015M	mg	/kg	Analyze	d By: ab					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/02/2011	ND	172	86.1	200	1.25	
DRO >C10-C28	<10.0	10.0	09/02/2011	ND	181	90.6	200	3.69	
Surrogate: 1-Chlorooctane	98.4	% 55.5-15	4						
Surrogate: 1-Chlorooctadecane	102	% 57.6-15	8						

Sample ID: SOIL BORE #7 @ 24' (H101842-02)

Chloride, SM4500CI-B	mg/kg		Analyze	Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	528	16.0	08/31/2011	ND	432	108	400	0.00	
TPH 8015M mg/kg		/kg	Analyzed By: ab						_
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/02/2011	ND	172	86.1	200	1.25	
DRO >C10-C28	<10.0	10.0	09/02/2011	ND	181	90.6	200	3.69	
Surrogate: 1-Chlorooctane	101	% 55.5-15	4						
Surrogate: I-Chlorooctadecane	105	% 57.6-15	8						

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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager



Rice Operating Company Hack Conder 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

Received:	08/30/2011	Sampling Date:	08/30/2011
Reported:	09/09/2011	Sampling Type:	Soil
Project Name:	EME H-7 EOL (20/37)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SOIL BORE #8 @ 9' (H101842-03)

Chloride, SM4500Cl-B	mg/kg		Analyze	Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	944	16.0	08/31/2011	ND	432	108	400	0.00	
TPH 8015M		/kg	Analyze	Analyzed By: ab					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/02/2011	ND	172	86.1	200	1.25	
DRO >C10-C28	<10.0	10.0	09/02/2011	ND	181	90.6	200	3.69	
Surrogate: 1-Chlorooctane	91.9	% 55.5-15	4						
Surrogate: 1-Chlorooctadecane	96.2	% 57.6-15	8						

Sample ID: SOIL BORE #8 @ 21' (H101842-04)

Chloride, SM4500CI-B	mg/kg		Analyze	Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1060	16.0	08/31/2011	ND	432	108	400	0.00	
TPH 8015M	mg/	mg/kg		d By: ab					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/02/2011	ND	172	86.1	200	1.25	
DRO >C10-C28	<10.0	10.0	09/02/2011	ND	181	90.6	200	3.69	
Surrogate: 1-Chlorooctane	90.1 9	55.5-15	4						
Surrogate: 1-Chlorooctadecane	93.1 9	% 57.6-15	8						

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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager



Rice Operating Company Hack Conder 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

Received:	08/30/2011	Sampling Date:	08/30/2011
Reported:	09/09/2011	Sampling Type:	Soil
Project Name:	EME H-7 EOL (20/37)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SOIL BORE #8 @ 24' (H101842-05)

Chloride, SM4500CI-B	mg/kg		Analyze	Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	592	16.0	08/31/2011	ND	432	108	400	0.00	
TPH 8015M	mg/kg		Analyze	d By: ab					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/02/2011	ND	172	86.1	200	1.25	
DRO >C10-C28	11.9	10.0	09/02/2011	ND	181	90.6	200	3.69	
Surrogate: I-Chlorooctane	99.9	% 55.5-15	4						
Surrogate: 1-Chlorooctadecane	103	% 57.6-15	8						

Sample ID: MW #1 @ 18' (H101842-06)

Chloride, SM4500CI-B	mg/kg		Analyze	Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	736	16.0	08/31/2011	ND	432	108	400	0.00	
TPH 8015M	mg/kg		Analyzed By: ab						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/02/2011	ND	172	86.1	200	1.25	
DRO >C10-C28	<10.0	10.0	09/02/2011	ND	181	90.6	200	3.69	
Surrogate: 1-Chlorooctane	99.1	% 55.5-15	4						
Surrogate: 1-Chlorooctadecane	102 5	% 57.6-15	8						

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Celuz D. Kune

Celey D. Keene, Lab Director/Quality Manager



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Received:	08/30/2011	Sampling Date:	08/30/2011
Reported:	09/09/2011	Sampling Type:	Soil
Project Name:	EME H-7 EOL (20/37)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: MW #1 @ 24' (H101842-07)

Chloride, SM4500CI-B	mg/kg		Analyze	Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	576	16.0	08/31/2011	ND	432	108	400	0.00	
TPH 8015M	mg/kg		Analyze	d By: ab					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/02/2011	ND	172	86.1	200	1.25	
DRO >C10-C28	<10.0	10.0	09/02/2011	ND	181	90.6	200	3.69	
Surrogate: 1-Chlorooctane	93.5	% 55.5-15	4						
Surrogate: 1-Chlorooctadecane	96.4	% 57.6-15	8						

Sample ID: MW #2 @ 12' (H101842-08)

Chloride, SM4500CI-B	mg/kg		Analyze	Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	528	16.0	08/31/2011	ND	432	108	400	0.00	
TPH 8015M	mg/kg		Analyze	d By: ab					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/02/2011	ND	172	86.1	200	1.25	
DRO >C10-C28	<10.0	10.0	09/02/2011	ND	181	90.6	200	3.69	
Surrogate: 1-Chlorooctane	104	% 55.5-15	4						
Surrogate: 1-Chlorooctadecane	107	% 57.6-15	8						

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Celuz D. Kune

Celey D. Keene, Lab Director/Quality Manager



Rice Operating Company Hack Conder 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

Received:	08/30/2011	Sampling Date:	08/30/2011
Reported:	09/09/2011	Sampling Type:	Soil
Project Name:	EME H-7 EOL (20/37)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: MW #2 @ 24' (H101842-09)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	08/31/2011	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: ab					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/02/2011	ND	172	86.1	200	1.25	
DRO >C10-C28	16.5	10.0	09/02/2011	ND	181	90.6	200	3.69	
Surrogate: 1-Chlorooctane	104	% 55.5-15	4						
Surrogate: 1-Chlorooctadecane	109	% 57.6-15	8						

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Celey D. Keene, Lab Director/Quality Manager

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Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500CI-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

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Celing D. Keine

Celey D. Keene, Lab Director/Quality Manager

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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9 1#MWL	3 71 V		× 8	30-4 11:20	7	7						
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+ Cardinal cannot accept verb	al changes. Please fa	x written changes to	505-393-2476				!					

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