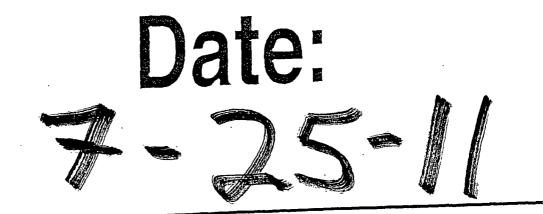
V 1R

WORKPLANS



Hansen, Edward J., EMNRD

From: Sent:	Lara Weinheimer [lweinheimer@rice-ecs.com] Tuesday, August 16, 2011 9:14 AM
To:	Hansen, Edward J., EMNRD
Cc:	Katie Jones; Hack Conder
Subject:	UPDATED Corrective Action Plan for ROC's EME P-8-3 boot (1R427-231)
Attachments:	EME P-8-3 boot (1R427-231) Updated CAP.pdf

Mr. Hansen,

Attached is an <u>updated</u> EME P-8-3 boot (1R427-231) Corrective Action Plan (CAP). Changes made to the attached document are summarized below. Page 3, section: Recommendations: text in blue lettering, below, will be added to the paragraph. If you need any further information, please let Hack or me know.

"Recommendations

RECS recommends the following as a Corrective Action Plan.

Groundwater

Since the site is located within the regionally impacted area, and the up-gradient monitor well has higher chloride and TDS readings than the source well, RECS determines that the P-8-3 site did not contribute to the degradation of the aquifer below the site. Residual soil chlorides remaining in the bottom 10 feet of the vadose zone within the impacted area average 404 mg/kg, while background concentrations observed at the same depths of the up-gradient MW-2 average 403 mg/kg. Therefore, this site will not impacted groundwater at concentrations greater than background. As such, ROC proposes to plug and abandon the two monitor wells (MW-1 and MW-2) at the site. The wells will be plugged with a 1 - 3% bentonite/concrete slurry and the top three feet of the wells will be capped with concrete.

Soil Remedy

In addition, ROC proposes to install a 20-mil, reinforced poly liner at 4-5 ft bgs measuring 44 ft x 35 ft (Figure 6). The liner will cover monitor well #1, extend 5 ft beyond SB-6 and SB-7, and will extend to the lease road to the north. The liner will provide a barrier that will inhibit the downward migration of chlorides to groundwater. The soils placed above the liner will have a laboratory chloride reading no greater than 500 mg/kg and a field PID measurement below 100 ppm. Excavated soil will be evaluated for use as backfill, and any soil requiring disposal will be properly disposed of at a NMOCD approved facility. Finally, the site will be seeded. The surface soils over and surrounding the site will be prepared with soil amendments as needed and then seeded with a native vegetative mix. Vegetation above the liner will also provide a natural infiltration barrier for the site since plants capture water through their roots thereby reducing the volume of water moving through the vadose zone to groundwater.

Upon completion of the CAP work elements, ROC will submit a written report which will include a request for "remediation termination" of the regulatory file.

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."

Thank you,

Lara

Lara Weinheimer Project Scientist Rice Environmental Consulting & Safety 122 W. Taylor Hobbs, NM 88240 (575) 441-0431

2

Rice Environmental Consulting & Safety

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

RECEIVED OCD

47

2月、7月、2月 A川: 55

CERTIFIED MAIL RETURN RECIEPT NO. 7008 1140 0001 3070 5740

July 25th, 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: Corrective Action Plan Rice Operating Company – EME SWD System EME P-8-3 boot (1R427-231): UL/P sec. 8 T20S R37E

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. 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.

This site is located approximately 3 miles south of Monument, New Mexico at UL/P sec. 8 T20S R37E as shown on the Site Location Map (Figure 1). Groundwater at this site is located at an approximate depth of 23 +/- feet.

Background and Previous Work

Junction Box Investigation

In 2007, ROC initiated work on the former EME P-8-3 boot junction. The site was delineated using a backhoe to form a trench and soil samples were screened at regular intervals for both hydrocarbons and chlorides. From the excavation trench, the 15 ft bgs sample was collected for laboratory verification. Laboratory tests of the site showed negligible gasoline range organics (GRO) and diesel range organics (DRO). However, chlorides concentrations from the trench did not relent with depth with the 15 foot sample testing at 624 ppm. The soil from the trench was taken to a disposal facility and clean imported soil was used to backfill the site and to contour it to the surrounding landscape. The site was seeded, and an identification plate was placed on the surface of the site to mark its location for future environmental considerations. NMOCD was notified of potential groundwater impact on March 13, 2008 and a junction box disclosure report was submitted to NMOCD with all the 2007 junction box closures and disclosures.

ICP Results

As part of the Investigation and Characterization Plan approved by NMOCD on December 22nd, 2010, five soil bores were advanced through the former junction box site to a depth of 21 ft bgs on December 8th and 10th, 2010 (Figure 4). ROC personnel field tested the soil for chlorides and screened in the field with a photo-ionization detector (PID). Representative samples from the bore were taken to a commercial laboratory for confirmation of chloride and hydrocarbon field numbers (Appendix A). Laboratory readings showed chloride numbers ranging from a high of 1,300 mg/kg at 9 ft bgs in soil bore #3 to a low of 272 mg/kg at 21 ft bgs in soil bore #5. Laboratory readings for GRO showed non-detect in all soil bores. However, laboratory DRO readings showed numbers of 77.7 mg/kg at 21 ft bgs in soil bore #1 and 149 mg/kg at 21 ft bgs in soil bore #5. All other DRO readings showed non-detect.

ICP Report Activities

Based on the delineation conducted during the ICP phase, RECS submitted an ICP Report on February 18th, 2011 which was approved by NMOCD on March 29th, 2011. The P-8-3 boot site was believed to be located within a regionally impacted groundwater area (Figure 2). As such, RECS recommended that ROC install a 4 inch, near source well approximately 25 ft southeast of the former junction box site and a 2 inch, up-gradient monitor well approximately 100 ft northwest of the former junction box site. ROC also proposed additional lateral delineation of soils surrounding the former box to determine the dimensions of an infiltration barrier. On March 24th, 2011, four soil bores and the two monitor wells were installed at the site in accordance to the ICP Report (Figure 4). The four soil bores and the two monitor wells were field tested for chlorides and screened in the field with a photo-ionization detector (PID). Samples from each bore and well were taken to a commercial laboratory for analysis of chlorides and hydrocarbons (Appendix A). The soil bores had laboratory chloride readings ranging from a high of 640 mg/kg at 12 ft bgs in soil bore #7 to a low of 176 mg/kg at 21 ft bgs in soil bore #8. GRO and DRO readings throughout the bores showed non-detect except for 21 ft bgs in soil bore #6 which had a DRO reading of 176 mg/kg and 21 ft bgs in soil bore #8 which had a DRO reading of 376 mg/kg. The two monitor wells had chloride readings ranging from a high of 960 mg/kg at 12 ft bgs in the source well (MW-1) to a low of 400 mg/kg at 21 ft bgs in the up gradient monitor well (MW-2). GRO and DRO readings were non-detect except for 12 ft bgs in monitor well #2 which had a DRO reading of 28.2 mg/kg.

The monitor wells have been sampled once since their installation on April 8th, 2011 (Figure 5). The site was confirmed to be located with the regionally impacted groundwater area based on chloride and TDS concentration in the up-gradient monitoring well. The up-gradient well had higher chloride and TDS values than the source well with the up-gradient well having a laboratory chloride reading of 1,300 mg/L and a TDS reading of 3,160 mg/L and the source well having a chloride reading of 1,050 mg/L and a TDS reading of 2,870 mg/L. Both monitor wells had BTEX levels of non-detect (Appendix B). A plat showing the up-gradient area of the site is attached (Figure 3).

Recommendations

RECS recommends the following as a Corrective Action Plan.

Groundwater

Since the site is located with the regionally impacted area, and the up-gradient monitor well has higher chloride and TDS readings than the source well, RECS determines that the P-8-3 site did not contribute to the degradation of the aquifer below the site. Therefore, ROC proposes to plug and abandon the two monitor wells (MW-1 and MW-2) at the site. The wells will be plugged with a 1 - 3% bentonite/concrete slurry and the top three feet of the wells will be capped with concrete.

Soil Remedy

In addition, ROC proposes to install a 20-mil, reinforced poly liner at 4-5 ft bgs measuring 44 ft x 35 ft (Figure 6). The liner will cover monitor well #1, extend 5 ft beyond SB-6 and SB-7, and will extend to the lease road to the north. The liner will provide a barrier that will inhibit the downward migration of chlorides to groundwater. The soils placed above the liner will have a laboratory chloride reading no greater than 500 mg/kg and a field PID measurement below 100 ppm. Excavated soil will be evaluated for use as backfill, and any soil requiring disposal will be properly disposed of at a NMOCD approved facility.

Finally, the site will be seeded. The surface soils over and surrounding the site will be prepared with soil amendments as needed and then seeded with a native vegetative mix. Vegetation above the liner will also provide a natural infiltration barrier for the site since plants capture water through their roots thereby reducing the volume of water moving through the vadose zone to groundwater.

Upon completion of the CAP work elements, ROC will submit a written report which will include a request for "remediation termination" of the regulatory file.

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,

HC.W-

Lara Weinheimer Project Scientist RECS (575) 441-0431

Attachments:

Figure 1 – Site location map

Figure 2 – Regionally impacted groundwater map

Figure 3 – Up gradient site location map

Figure 4 – Soil bore and Monitor well installation plat

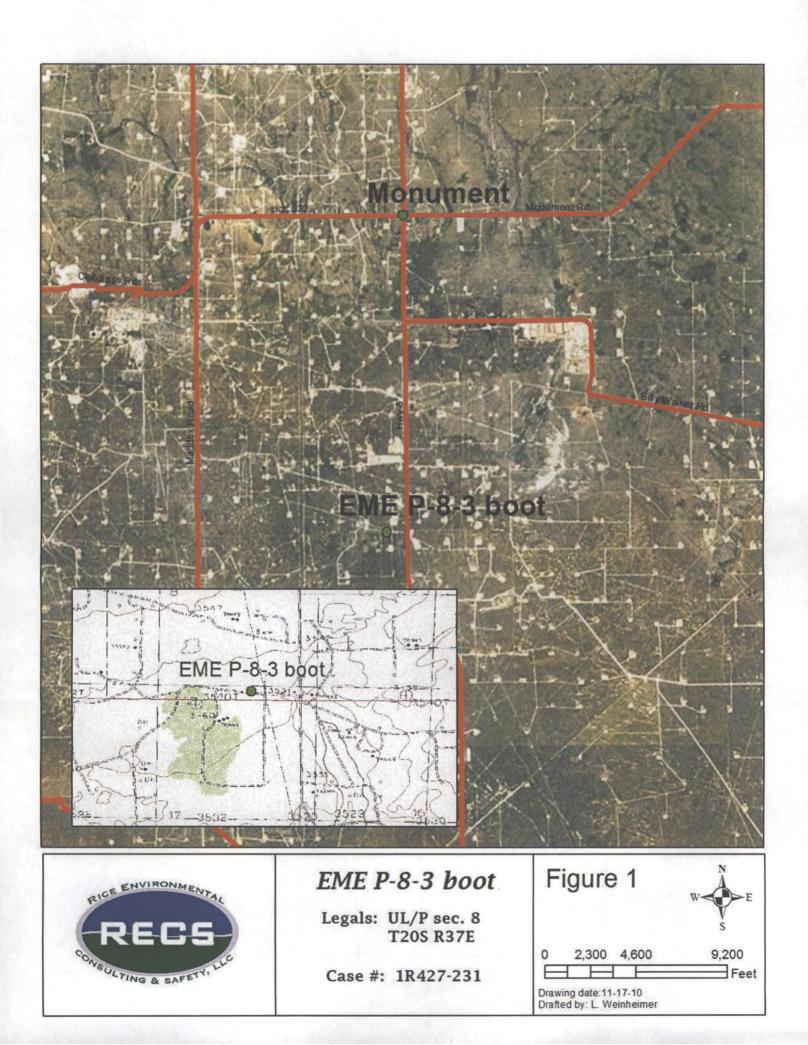
Figure 5 – Monitor well sampling plat

Figure 6 – Proposed liner dimensions plat

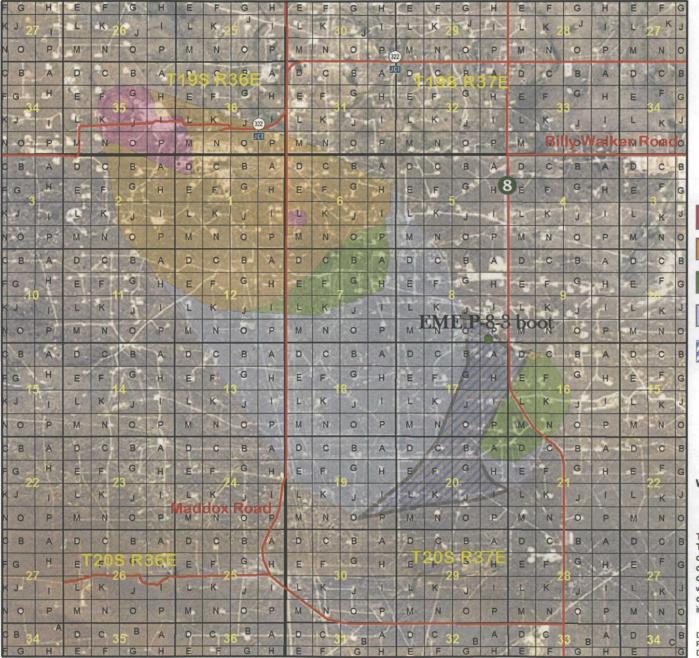
Appendix A – Soil bore and Monitor well installation logs and laboratory confirmation Appendix B – Monitor well sampling laboratory analysis

Figures

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



EME Groundwater Contamination





122 W. Taylor Hobbs, NM 88240 Phone (575) 393-9174 Fax (575) 397-1471

Cl- concentration > 10,000 10,000 > Cl- concentration > 5,000 5,000 > Cl- concentration > 2,000

2,000 > CI- concentration > 700

Hypothetical CI- contamination area





This map was prepared by and for Rice Operating Company. This map represents the known chloride impact concentrations in the groundwater as of 2011. As conditions change and/or new monitor wells are added, the contamination plume will undergo permutations that will be reflected in future maps. Rice Operating Company does not assume any responsibility for the use of this information by others.

Figure 2

Drawing date: 12-15-09 Revision date:1-11-11 Drafted by: Lara Weinheimer

Up-gradient Site Map





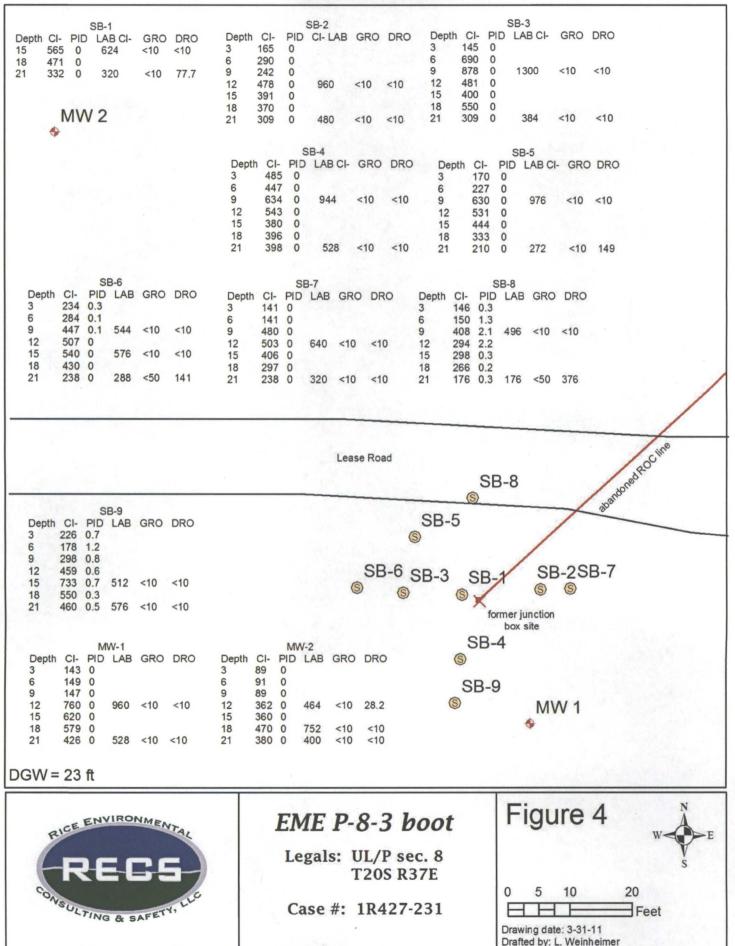
EME P-8-3 boot

Legals: UL/P sec. 8 T20S R37E

Case #: 1R427-231

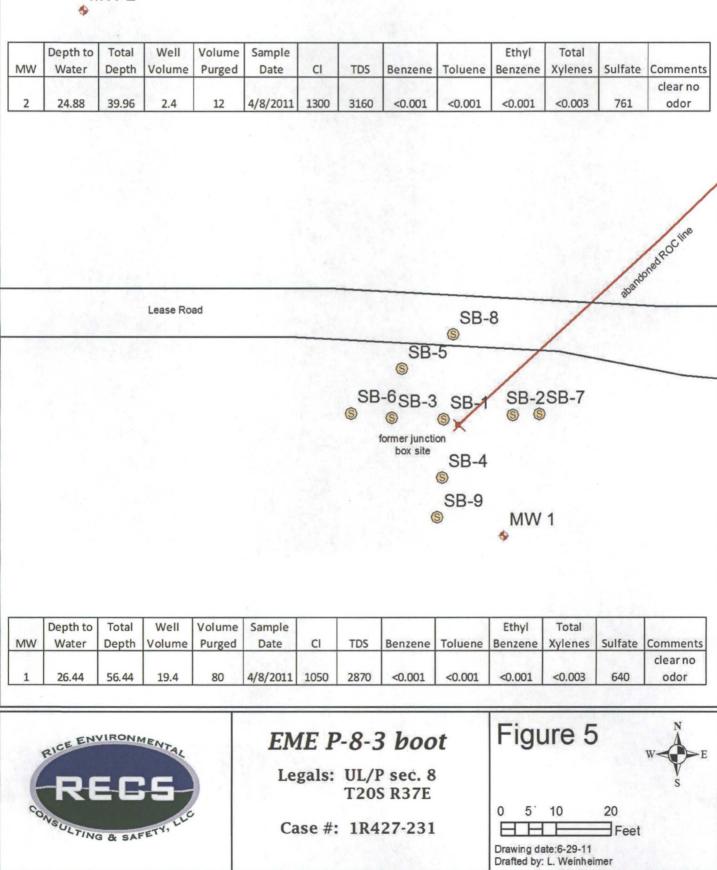
Fi	gure	93	W E S			
0	445	890	1,780			
	ing date: 6- ed by: L. W		Feel			

Soil bore and Monitor well information

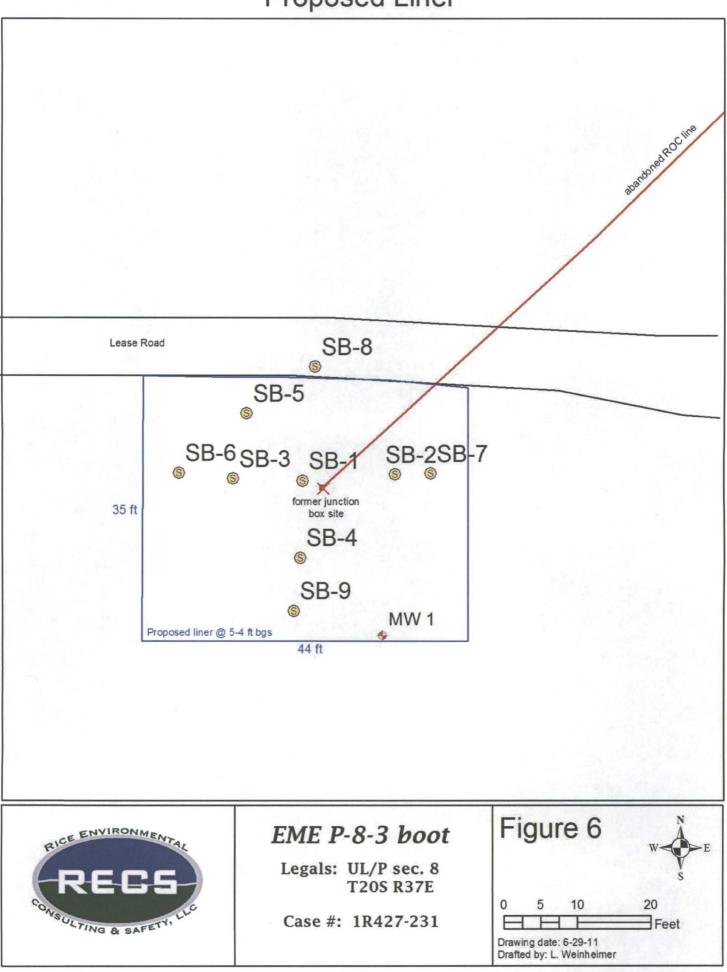


Monitor Well Sampling

MW 2



Proposed Liner



Appendix A

7

Soil bore and Monitor well installation logs 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:Jordan WoodfinDriller:Harrison & Cooper, Inc.Drilling Method:Air rotary		Harrison & Cooper, Inc. SB-3 SB-1 SB-2		RECS					
		y		Pro	ject Name:	diana.	Well ID:		
Start Date	e:		12/8/201	0	SB-4		EME P-8-3 b	poot	SB-1
End Date	:	1	12/8/201	0			ject Consulta	nt: REC	S
Comme	ents: Loca	ted a	t the so	ource o	f the former junction box site.	Loc	cation: UL/P	sec. 8 T2	0S R37E
	TD =	= 21 f		TED BY:	L. Weinheimer $GW = 23 \text{ ft}$: 32°34'51.143 ng: 103°16'5.		County: LEA State: NM
Depth chloride (feet) field tests LAB PID		PID	Description		Lithology	Well	Construction		
			CI-						
15 ft 565	-	624	0						
			GRO <10						
			DRO		Tan very fine silty sand with small				
			<10		caliche fragments				bentonite
18ft	471			0					seal
01.64	222		CI-	0					
21 ft	332		320 GRO	0					
			<10						
1	1. C		DRO 77.7						

Logger: Driller: Drilling N Start Date End Date Comme	Method: e: e: ents: Loc	larriso	DRAF	oer, Inc. / 0 ast of th	SB-5 SB-3 SB-1 SB-4 SB-4 sB-4 the former junction box site. : L. Weinheimer GW = 23 ft	Project Name: EME P-8-3 Project Consult	ant: RECS sec. 8 T20S R37E 9"N County: LEA
Depth (feet)	chlorid field te		LAB	PID	Description	Lithology	Well Construction
3 ft	165			0	Brown very fine sand		
		_			Tan very fine silty sand		
6 ft	290			0			
9 ft	242			0			
12 ft	478		CI- 960 GRO	0			bentonite seal
			<10 DRO <10		Tan very fine sand with very small caliche fragments		
15 ft	391			0			
18 ft	370			0			
21 ft	309		CI- 480 GRO	0			
			<10 DRO <10				

Logger: Driller: Drilling M Start Date End Date Comme	Method: e: e: ents: Loo	Harrisc	DRA	per, Inc. y 0 0 vest of t	SB-5 SB-3 SB-1 SB-2 SB-4 SB-4 the former junction box site. T: L. Weinheimer GW = 23 ft	Project Name: EME P-8-3 boot Project Consultant: REC Location: UL/P sec. 8 T2 Lat: 32°34'51.147"N Long: 103°16'5.687"W			Well ID: SB- ECS T20S R37E County	Well ID: SB-3		
Depth	chlori	ide	LAB	PID	Description		Lithology		ell Construc	tion		
(feet) 3 ft	field te			0	Brown very fine sand slightly consolidated							
6 ft	690)		0	Tan fine silty sand							
9 ft	878	3	CI- 1300 GRO	0								
			<10 DRO <10						bento	onite		
12 ft	481			0	Tan very fine silty sand with caliche				se	al		
15 ft	400)		0	fragments							
18 ft	550	,		0								
21 ft	309)	CI- 384 GRO <10	0								
			DRO <10									

Logger: Driller: Drilling M Start Dat End Date Comme	Method: e: e: ents: Loc	Harriso	DRAF	ber, Inc. / 0 0 Douth of f	SB-5 SB-3 $SB-1$ $SB-2SB-4SB-4the former junction box site.: L. WeinheimerGW = 23$ ft	Pro Loc Lat	eiject Name: EME P-8-3 to bject Consulta cation: UL/P station: UL/P station: 132°34'51.041 ng: 103°16'5.			
Depth (feet)	chlori field te		LAB	PID	Description		Lithology	Well (Construction	
3 ft	485			0	Tan silty sand with small caliche fragments					
6 ft 9 ft	634		CI- 944	0						
511	004		GRO <10 DRO <10						bentonite	
12 ft	543			0	Tan very fine silty sand with small caliche fragments				seal	
15 ft	380			0						
18 ft	396			0						
21 ft	398		CI- 528 GRO <10 DRO	0						

Logger: Driller: Drilling I Start Date End Date Comme	Method: te: e: ents: Lo	Harrisc	DRA	per, Inc. y 10 orth we	SB-5 SB-3 SB-1 SB-2 SB-4 SB-4 est of the former junction box site. Y: L. Weinheimer GW = 23 ft	Pro Lo	R	ooot Int: REC: Sec. 8 T2	Well ID: SB-5 CS	
Depth (feet)	chlori field te		LAB	PID	Description		Lithology	Well	Construction	
3 ft	170)		0	Brown very fine sand (slightly consolidated)					
			-		Tan silty sand with caliche fragments					
6 ft	227	/		0	-					
9 ft	630)	CI- 976 GRO <10 DRO	0	Light brown fine silty sand with					
12 ft	531	1	<10	0	caliche fragments				bentonite seal	
15 ft	444	4		0						
18 ft	333	3		0		10				
21 ft	210)	Cl- 272 GRO	0						
			<10 DRO 149							

December 13, 2010

Hack Conder Rice Operating Company 112 W. Taylor

Hobbs, NM 88240

RE: EME JCT P-8-3

Enclosed are the results of analyses for samples received by the laboratory on 12/09/10 9:50.

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

Analytical Results For:

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

Received:	12/09/2010	Sampling Date:	12/08/2010
Reported:	12/13/2010	Sampling Type:	Soil
Project Name:	EME JCT P-8-3	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		,

Sample ID: SB #1 @ 15' (H021480-01)

Chloride, SM4500Cl-B	mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	624	16.0	12/10/2010	ND	416	104	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	12/10/2010	ND	164	81.9	200	3.76	
DRO >C10-C28	<10.0	10.0	12/10/2010	` ND	163	81.3	200	2.60	
Surrogate: 1-Chlorooctane	87 7	% 70-130	1						
Surrogate: 1-Chlorooctadecane	92 5	% 70-130							

Sample ID: SB #1 @ 21' (H021480-02)

Chloride, SM4500CI-B	mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	12/10/2010	ND	416	104	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	12/10/2010	ND	164	81.9	200	3.76	
DRO >C10-C28	77.7	10.0	12/10/2010	ND	163	81.3	200	2.60	
Surrogate: 1-Chlorooctane	102	% 70-130						•	
Surrogate: 1-Chlorooctadecane	105	% 70-130							

Cardinal Laboratories

,

*=Accredited Analyte

PLEASE NOTE Lability and Damages. Cardinal's liability and client's exclusive remedy for any claim ansing, 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 whätsbeever shall be deemed waived unless made in writing and received by claims, including those for negligence and induding, within thirty (30) days after completion of the applicable service. In no event shall Cardinal be lable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidianes, affiliates or successors ansing 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 state/reasons or otherwse. Results relate only to the samples identified above. This reproduced exception in full within them approval of cardinal Laborationes.

Celunt line

Celey D. Keene, Lab Director/Quality Manager

Page 2 of 7

Analytical Results For:

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

Received:	12/09/2010	Sampling Date:	12/08/2010
Reported:	12/13/2010	Sampling Type:	Soil
Project Name:	EME JCT P-8-3	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

Sample ID: SB #2 @ 12' (H021480-03)

Chloride, SM4500Cl-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	12/10/2010	ND	416	104	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	12/10/2010	ND	164	81.9	200	3.76	
DRO >C10-C28	<10.0	10.0	12/10/2010	ND	163	81.3	200	2.60	
Surrogate: 1-Chlorooctane	90.9	% 70-130				· · · ·			
Surrogate: 1-Chlorooctadecane	94 4	% 70-130		N N					

Sample ID: SB #2 @ 21' (H021480-04)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	480	16.0	12/10/2010	ND	416	104	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	12/10/2010	ND	164	81.9	200	3.76	
DRO >C10-C28	<10.0	10.0	12/10/2010	ND	163	81.3	200	2.60	
Surrogate. 1-Chlorooctane	89 7	% 70-130							
Surrogate I-Chlorooctadecane	<i>92</i> .7	% 70-130							

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*=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 waved unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be lable for inodental 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 abioe stated reasons or otherwise Results relate only to the samples identified above. This reproduced except in full with internaporoval of Cardinal Laboratories.

Celege une

Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	12/09/2010	Sampling Date:	12/08/2010
Reported:	12/13/2010	Sampling Type:	Soil
Project Name:	EME JCT P-8-3	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

Sample ID: SB #3 @ 9' (H021480-05)

Chloride, SM4500Cl-B	mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1300	16.0	12/10/2010	ND	416	104	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	12/10/2010	ND	164	81.9	200	3.76	
DRO >C10-C28	<10.0	10.0	12/10/2010	ND	163	81.3	200	2.60	
Surrogate [•] 1-Chlorooctane	88.0	% 70-130	•						
Surrogate: 1-Chlorooctadecane	991	% 70-130							

Sample ID: SB #3 @ 21' (H021480-06)

Chloride, SM4500CI-B	mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	384	16.0	12/10/2010	ND	416	104	400	0.00	
TPH 8015M	mg/kg Analyzed		d By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/10/2010	ND	164	81.9	200	3.76	
DRO >C10-C28	<10.0	10.0	12/10/2010	ND	163	81.3	200	2.60	
Surrogate. 1-Chlorooctane	98 3	% 70-130							
Surrogate: 1-Chlorooctadecane	103	% 70-130							

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Celey D. Keene, Lab Director/Quality Manager

Page 4 of 7

Analytical Results For:

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

•			
Received:	12/09/2010	Sampling Date:	12/08/2010
Reported:	12/13/2010	Sampling Type:	Soil
Project Name:	EME JCT P-8-3	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

Sample ID: SB #4 @ 9' (H021480-07)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	944	16.0	12/10/2010	ND	416	104	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	12/10/2010	ND	164	81.9	200	3.76	
DRO >C10-C28	<10.0	10.0	12/10/2010	ND	163	81.3	200	2.60	
Surrogate 1-Chlorooctane	. 111	% 70-130					•		
Surrogate: 1-Chlorooctadecane	114	% 70-130							

Sample ID: SB #4 @ 21' (H021480-08)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	528	16.0	12/10/2010	ND	416	104	400	0.00	
TPH 8015M	15M 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	12/10/2010	ND	190	95.1	200	14.3	
DRO >C10-C28	<10.0	10.0	12/10/2010	ND	187	93.7	200	5.04	
Surrogate: 1-Chlorooctane	85 4	% 70-130							
Surrogate. 1-Chlorooctadecane	90 1	% 70-130	•						

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Celey D. Keene, Lab Director/Quality Manager

Page 5 of 7

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 SM4500Cl-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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

ARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX: 79603 3(505) 393-2326 FAX (505) 393-2476" (325) 673-7001 FAX (325)673-7020

Company Name: Rice Operating Company BILL TO ANALYSIS REQUEST Project/Manager: Hack Conder P.O: #: C40 Address: '1'22'West Taylor Company: Complete Cations/Anions Thru City: Hobbs State: NM Zip: 88240 Áttn:-Address: Phone #: 575-393-9174 Fax #: 575-397-1471 Σ Extended Project #: Project:Owner: Citÿ Texas TPH Chlorides Project Name: EME JCT P-8-3 **TPH 8015** State: Zip: BTEX Project Location: EMEJCT P-8-3 Phone #: Sampler Name: Jordan Woodfin Fax #: FOR LAB USE ONLY MATRIX PRESERV SAMPLING 8015 M G)RAB'OR (C)OMP **GROUNDWATER** WASTEWATER SOIL CONTAINERS ACID/BASE ICE / COOL OTHER :: Lab I.D. Sample I.D. SLUDGE OTHER? П ਰ DATE TIME H21460.1 SB[:]#:1'@15" :å 02:00 1 12/8/10 1. Z SB # 1 @ 21 1 02:15: 3 1: 1 1 Ý SB # 2 @ 12'. 02:30 1 1 1 1 4 SB # 2 @ 21' 02:45 5 1 ✓ 1 SB # 3 @ 9 **V**: 03:00 1 6 1 1 SB:#'3'@:21' 03:15 1 1 1 . ۲۰ 9 SB # 4 @ 9' 03:45 9 1 1 SB # 4 @ 21! 1 1 04:00

NOTE: Lability and Compose: Cordinal p kability and anyses, Al claims including these for negtgence and any other couse what sever shall be deered waived unless made in writing and received by Certifical within 20 days effer completion of the applicable service. In no event shall Cardinal be kebte for Incidental or consequential damages, including without timitation, business internuctions, toes of use; or loss of profits incurrent by client, its subsidiaries altifians or successors anticing out or related to the performance of services herounder by Cauchini, topardiess of whither such chain is based uper any of the above stated reasens or otherwse.

Date: Relinguished By: V/ Received By:_ Phone Result: D Yes D No Fax Result: O Yes Jordan Woodfin Time: **REMARKS:** :56 C. **Relinguished By:** Date: **Received By:** email results la:h Jenso Delivered By: (Circle Qne) Hconder@riceswd.com; jwoodfin@riceswd.com; Sample Condition CHECKED BY: Cool Intact (Initials) Lweinheimer@riceswd.com kjones@riceswd.com Sampler - UPS - Bus - Other:

t. Cardinal cannot accept verbal changes: Please fax written changes to 505-393-2476

#26

NEED SAMPLES BACK, PLEASE

Add'l Phone #:

Add'I Fax #:

Ø No

December 15, 2010

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

RE: EME JCT P-8-3

Enclosed are the results of analyses for samples received by the laboratory on 12/10/10 16:45.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021Benzene, Toluene, Ethyl Benzene, and Total XylenesMethod SW-846 8260Benzene, Toluene, Ethyl Benzene, and Total XylenesMethod TX 1005Total 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

Analytical Results For:

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

Received:	12/10/2010		Sampling Date:	12/10/2010
Reported:	12/15/2010	-	Sampling Type:	Soil
Project Name:	EME JCT P-8-3		Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN		Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN			

Sample ID: SB #5 @ 9' (H021499-01)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	Truė Value QC	RPD	Qualifier
Chloride	976	16.0	12/13/2010	ND	416	104	400	3.77	-
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	12/14/2010	ND	213	106	~ 200	6.74	
DRO >C10-C28	<10.0	10.0	12/14/2010	ND	226	113	200	5.87	
Surrogate: 1-Chlorooctane	90 0	% `70-130							
Surrogate [•] 1-Chlorooctadecane	90 1	% 70-130							

Sample ID: SB #5 @ 21' (H021499-02)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	12/13/2010	ND .	416	104	400	3.77	
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	12/14/2010	ND	213	106	200	、6.74	
DRO >C10-C28	149	10.0	12/14/2010	ND	226	113	200	5.87	
Surrogate 1-Chlorooctane	92 6	% 70-130					· · ·		
Surrogate 1-Chlorooctadecane	92 3	% 70-130				-			

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PLEASE NOTE Liability and Damages. Cardinal's liability and client's exclusive remedy for any daim anising, 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 whitsoever shall be deemed waved unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be lable for incidental or consequential damages, including those for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profils incruined by dient, its subsidiaries, affiliates or successors aroung 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 otherwase Results relate only to the samples identified above. This report shall not be reporticed extert in full with written approval of Cardinal Laborationes.

Celuy D. Kune

Celey D. Keene, Lab Director/Quality Manager

Page 2 of 4

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

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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(505) 393-2326 FAX (505) 393-2476	(325) 673-7001 FAX (325) 673-7020

Company Name	rado, operating con	npaný						·	B	ILL TO	-1. A. 2	7		•		ANAL	_YSIS	S RE	QUE	ST			
Project Manager	Hack Conder							P.0	片# 出								40			T,			
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Project Location	n: EME Jct P-8-3			- -	 		· - !	Pho	one #:	•		Chlörides	8015	BTEX	Texas TPH	ati	Extended	 .	Į,		1 1	, I	
Sampler Name:	Jordan Woodfin	، 		_				Fäx				12		i ini	xa	Ö	μ			!		, 1	1
FOR LAB USE ONLY	· ·		۔ م			MAT	RIX		PRESERV	V. SAMPL	ING	0	TPH		Le	fe	Σ						
Lab I.D.	Sample I	Ĵ .D	(G)RAB OR (C)OMP	# CONTAINERS	GROUNDWATER	WASTEWATER Solt	OIL SLUDGE	ÓTHER:	ACID/BASE: ICE / COOL ST	DATE	TIME	1	r :			Complete Cations/Anions	TPH 8015						
HZ1499-1	SB #/5 @ 9		9	ίŤ		1			. 🗸	12/10/10	08:15		1		•	_							
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audyses. Al claims include service. In no event shall C anthatos or successors and Relinquished By	no Damages, Cardanal's lubility and a ing these tay negligence and any other ariginal be habe to incidental or conse ing suit of or related to the performance	el cause whatsoover shall be a sequental damages, including ce of services hereunder by C	déemei g vithou Cardinal	ed wälve uit Ensta 11, reger	ed unles ation, bu	ss made in v usiness inte I whether si	wilng and errupuos,	d (ecch. lass of	ved by Cárdinal fuse; cr loss of	d with'n 30 days a f profits incurred th	fter completion of y client, its subsidi	tre applica laries Ase, esult: alt:	n: n:10] <u>10], Ye</u> 10] Ye				Phone Fax #:	#:	<u>1:</u>	<u>ن</u>		······	L
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t Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

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Logger: Driller:	н		dan Woo n & Coor		SB-8 SB-5 SB-6 SB-3 SB-1 SB-2SB-7			REC	S		
Drilling Method: Air rotary Start Date: 3/24/2011					ures yes in the set SB-4		Project Name: Well ID:				
End Date			3/24/201		SB-9	Pro	EME P-8-3		SB-6		
					uttings. Located 19 ft west of		ation: UL/P				
the former ju					riction box site. /: L. Weinheimer GW = 23 ft	Lat: 32°34'51.155"N County: LE/ Long: 103°16'5.773"W State: NM					
Depth chloride (feet) field tests LAB PID					Description	II	Lithology		Well Construction		
					Well consolidated brownish yellow fine sand						
3 ft	234			0.3							
					Tan to yellow slightly consolidated silty sand						
6 ft	284			0.1							
	1				Tan slightly consolidated silty sand						
9 ft	447		CI- 544	0.1							
			GRO <10 DRO		Tan well consolidated fine sand						
12 ft	507		<10	0.0					bentonite seal		
15 ft	540		CI- 576	0.0							
			GRO <10 DRO		Tan to red slightly consolidated silty						
40.0			<10		sand						
18 ft	430			0.0							
21 ft	238	_	CI- 288	0.0							
			GRO <50 DRO								
			141								

Logger: Driller:	Carbon I and a second second			SB-5 SB-6 SB-3 SB-1 SB-2SB-7		F	REC.	The second	
	te: ents: All s TD	3/24/20 3/24/20 samples an the f DR. = 21 ft	3/24/2011 3/24/2011 apples are from cuttings. Located 14 ft east of the former junction box site. DRAFTED BY: L. Weinheimer		Project Name:Well ID:EME P-8-3 bootSB-7Project Consultant: RECSLocation: UL/P sec. 8 T20S R37ELat: 32°34'51.152"NCounty: LILong: 103°16'5.374"WState: NM				
Depth (feet)	chlori field te	IIAB	PID	Description		Lithology	Well	Construction	
3 ft	141		0	Tan very fine sand with caliche					
6 ft	141		0	Tan yellowish fine silty sand with small caliche					
9 ft	480)	0	Tan very fine silty sand					
		CI-							
12 ft	503		0	Tan to light brown very fine silty sand with caliche				bentonite	
15 ft	406	;	0						
18 ft	297		0						
21 ft	238	CI- 320 GRO	0						
		<10 DRO <10							

Logger: Driller:	er: Harrison & Cooper, Inc.		Harrison & Coop		ler: Harrison & Cooper, Ind		Harrison & Cooper, Inc.			RECS	ie .
Drilling Method:Air rotaryStart Date:3/24/2011End Date:3/24/2011			3/24/201	1	SB-9	Project Name: Well ID: EME P-8-3 boot SB-8 Project Consultant: RECS					
	ents: All		les are the fo DRAI	from cu rmer jur	ttings. Located 16 ft north of action box site. L. Weinheimer GW = 23 ft	Location: UL/P sec. 8 T20S R37E Lat: 32°34'51.295"N Count Long: 103°16'5.555"W State:					
Depth chloride (feet) field tests LAB PID			LAB	PID	Description	Lithology	Well C	onstruction			
3 ft	146	;		0.3	Tan caliche						
6 ft	150			1.3	Tan fine silty sand with caliche						
9 ft	408	3	CI- 496 GRO <10 DRO <10	2.1							
12 ft	294	1		2.2				bentonite			
15 ft	298	3		0.3	Red fine silty sand			seal			
18 ft	266	3		0.2	Tan fine silty sand with caliche						
21 ft	176	3	CI- 176 GRO <50	0.3							
			DRO 376								

Logger: Driller:			dan Woo on & Coo		SB-6 SB-3 SB-1 SB-2SB-7			REC.	MTAL 5		
Drilling Method:Air rotaryStart Date:3/24/2011End Date:3/24/2011		1	SB-4 SB-9		Project Name: Well ID: EME P-8-3 boot SB Project Consultant: RECS						
				rmer ju	uttings. Located 17 ft south of nction box site. ': L. Weinheimer GW = 23 ft	Location: UL/P sec. 8 T20S R37E Lat: 32°34'50.971"N County: LE Long: 103°16'5.593"W State: NM					
Depth chloride feet) field tests LAB PID			de LAB PID Description			Lithology		Construction			
3 ft 6 ft	226			0.7	Tan fine sand with caliche						
9 ft	298	3		0.8							
12 ft	459)		0.6	Tan very fine silty sand				bentonite seal		
15 ft	733	3	CI- 512 GRO <10 DRO	0.7							
18 ft	550)	<10	0.3	Tan very fine silty sand with caliche						
21 ft	460)	CI- 576 GRO <10	0.5							
			DRO <10								

Logger:Jordan WoodfinDriller:Harrison & Cooper, Inc.Drilling Method:Air rotaryStart Date:3/24/2011End Date:3/24/2011				MW 2	Project Name: Well ID: EME P-8-3 boot MW-1 Project Consultant: RECS					
			2011	• • • • • • • • • • • • • • • • • • •						
Comme		of th	e former	cuttings. Located 21 ft south-east junction box site. Y: L. Weinheimer GW = 23 ft	Location: UL/P s Lat: 32°34'50.937 Long: 103°16'5.	County: LEA State: NM				
Depth (feet)	chlori field te		B PID	Description	Lithology	Well C	onstruction			
3 ft	143		0	Light brown fine sand with small		in PVC				
6 ft	149		0	caliche fragments		4 in	bentonite seal			
9 ft	147		0							
12 ft	760	CI- 960 GRC <10	0	-						
15 ft	620	DR0 <10)							
40.0				Tan very fine silty sand with medium caliche fragments						
18 ft	579		0							
21 ft	426	GR0 <10 DR0		-						
35 ft		<10		-						

Depth (feet)	chloride field tests	LAB	PID	Description	Lithology	Well Cor	nstruction
40 ft							
3				NO SAMPLES TAKEN			sand pack
45 ft							
50 ft							
1.54							
55 ft							
60 ft							
65 ft							
68 ft							



March 31, 2011

Hack Conder

Rice Operating Company

.

112 W. Taylor

Hobbs, NM 88240

RE: EME P-8-3 BOOT

Enclosed are the results of analyses for samples received by the laboratory on 03/25/11 8:25.

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,

Â 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:	03/25/2011	Sampling Date:	03/24/2011	
Reported:	03/31/2011	Sampling Type:	Soil	•
Project Name:	EME P-8-3 BOOT	Sampling Condition:	Cool & Intact	
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson	
Project Location:	EME P-8-3 BOOT			

Sample ID: SB 6 @ 9 FT (H100581-01)

Chloride, SM4500CI-B mg/kg Analyzed By: HM Analyte Result Reporting Limit Analyzed Method Blank BS True Value QC RPD Qualifier % Recovery Chloride 16.0 544 03/28/2011 ND 416 104 400 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 03/28/2011 ND 108 108 100 1.11 DRO >C10-C28 <10.0 10.0 03/28/2011 ND 116 100 0.490 116 Surrogate. 1-Chlorooctane 87.2% 70-130 Surrogate 1-Chlorooctadecane 70-130 811%

Sample ID: SB 6 @ 15 FT (H100581-02)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: HM			•		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	576	16.0	03/28/2011	ND	416	104	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	03/28/2011	ND	108	108	100	1.11	
DRO >C10-C28	<10.0	10.0	03/28/2011	ND	116	116	100	0.490	
Surrogate 1-Chlorooctane		% 70-130			_				
Surrogate 1-Chlorooctadecane	87.1	% 70-130							

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Celing 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:	03/25/2011	Sampling Date:	03/24/2011
Reported:	03/31/2011	Sampling Type:	Soil
Project Name:	EME P-8-3 BOOT	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EME P-8-3 BOOT		

Sample ID: SB 6 @ 21 FT (H100581-03)

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	03/28/2011	ND	416	104	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	<50.0	50.0	03/28/2011	ND	108	108	100	1.11	
DRO >C10-C28	141	50.0	03/28/2011	ND	116	116	100	0.490	
Surrogate 1-Chlorooctane	90.5	% 70-130	1						
Surrogate: 1-Chlorooctadecane	77.5	% 70-130	,						

Sample ID: SB 7@ 12 FT (H100581-04)

mg,	/kg	Analyze	d By: HM	<u>.</u>				
Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
640	16.0	03/28/2011	ND	416	104	400	0.00	
mg/kg		Analyzed By: AB		···				
Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<10.0	10.0	03/28/2011	ND	108	108	100	1.11	
<10.0	10.0	03/28/2011	ND	116	116	100	0.490	
97.6	% 70-130)						
89 0	% 70-130	I	•					
	Result 640 mg, Result <10.0 <10.0 97.6	640 16.0 mg/kg Result Reporting Limit <10.0	Result Reporting Limit Analyzed 640 16.0 03/28/2011 mg/kg Analyzed Result Reporting Limit Analyzed <10.0	Result Reporting Limit Analyzed Method Blank 640 16.0 03/28/2011 ND mg/kg Analyzed By: AB Method Blank Result Reporting Limit Analyzed Method Blank <10.0	Result Reporting Limit Analyzed Method Blank BS 640 16.0 03/28/2011 ND 416 mg/kg Analyzed By: AB BS Result Reporting Limit Analyzed Method Blank BS <10.0	Result Reporting Limit Analyzed Method Blank BS % Recovery 640 16.0 03/28/2011 ND 416 104 mg/kg Analyzed By: AB Method Blank BS % Recovery Result Reporting Limit Analyzed Method Blank BS % Recovery <10.0	Result Reporting Limit Analyzed Method Blank BS % Recovery True Value QC 640 16.0 03/28/2011 ND 416 104 400 mg/kg Analyzed By: AB Method Blank BS % Recovery True Value QC <10.0	Result Reporting Limit Analyzed Method Blank BS % Recovery True Value QC RPD 640 16.0 03/28/2011 ND 416 104 400 0.00 mg/kg Analyzed By: AB Analyzed Biank BS % Recovery True Value QC RPD Analyzed By: AB

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Celing D. Kune

Celey D. Keene, Lab Director/Quality Manager



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Received:	03/25/2011	Sampling Date:	03/24/2011
Reported:	03/31/2011	Sampling Type:	Soil
Project Name:	EME P-8-3 BOOT	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EME P-8-3 BOOT		

Sample ID: SB 7 @ 21 FT (H100581-05)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	03/29/2011	ND	416	104	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	03/28/2011	ND	108	108	100	1.11	
DRO >C10-C28	<10.0	10.0	03/28/2011	ND	116	116	100	0.490	
Surrogate. 1-Chlorooctane	92.8	% 70-130	•		•				
Surrogate: 1-Chlorooctadecane	90.8	% 70-130	,						

Sample ID: SB 8 @ 9 FT (H100581-06)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	496	16.0	03/29/2011	ND	416	104	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	03/28/2011	ND	108	108	100	1.11	
DRO >C10-C28	<10.0	10.0	03/28/2011	ND	116	116	100	0.490 💡	
Surrogate: 1-Chlorooctane	913	% 70-130				///			
Surrogate. 1-Chlorooctadecane	86 5	% 70-130		•					

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Celey D. Keene, Lab Director/Quality Manager



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	Received:	03/25/2011	Sampling Date:	03/24/2011
	Reported:	03/31/2011	Sampling Type:	Soil
	Project Name:	EME P-8-3 BOOT	Sampling Condition:	Cool & Intact
•	Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
	Project Location:	EME P-8-3 BOOT		

Sample ID: SB 8 @ 21 FT (H100581-07)

Chloride, SM4500CI-B	mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	03/29/2011	ND	416	104	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	<50.0	50.0	03/28/2011	ND	108	108	100	1.11	
DRO >C10-C28	376	50.0	03/28/2011	ND	116	116	100	0.490	
Surrogate: 1-Chlorooctane	104 9	% 70-130							``
Surrogate: 1-Chlorooctadecane	99.7	% 70-130	,						

Sample ID: SB 9 @ 15 FT (H100581-08)

Chloride, SM4500CI-B	mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	512	16.0	03/29/2011	ND	416	104	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	03/28/2011	ND	108	108	100 .	1.11	
DRO >C10-C28	<10.0	10.0	03/28/2011	ND	116	116	100	0.490	
Surrogate: 1-Chlorooctane	108	% 70-130	!						
Surrogate. 1-Chlorooctadecane	106	% 70-130							

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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager



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Received:	03/25/2011	Sampling Date:	03/24/2011
Reported:	03/31/2011	Sampling Type:	Soil
Project Name:	EME P-8-3 BOOT	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
 Project Location: 	EME P-8-3 BOOT		,

Sample ID: SB 9 @ 21 FT (H100581-09)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	576	16.0	03/29/2011	ND	416	104	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	03/29/2011	ND	108	108	100	1.11	
DRO >C10-C28	<10.0	10.0	03/29/2011	ND	116	116	· 100	0.490	
Surrogate. 1-Chlorooctane	93.6	% 70-130							
Surrogate: 1-Chlorooctadecane	84.7	% 70-130							

Sample ID: MW - 1 @ 12 FT (H100581-10)

Chloride, SM4500Cl-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	03/29/2011	ND	416	104	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	03/29/2011	ND	108	108	100	1.11	
DRO >C10-C28	<10.0	10.0	03/29/2011	ND	116	116	100	0.490	
Surrogate 1-Chlorooctane	89.1	%` 70-130)						
Surrogate 1-Chlorooctadecane	86.7	% 70-130)						

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Celing D. Kune

Celey D. Keene, Lab Director/Quality Manager



Rice Opera	ating Company
Hack Cond	er
112 W. Ta	ylor
Hobbs NM,	, 88240
• Fax To:	(575) 397-1471

Received:	03/25/2011	Sampling Date:	03/24/2011
Reported:	03/31/2011	Sampling Type:	Soil
Project Name:	EME P-8-3 BOOT	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EME P-8-3 BOOT		

Sample ID: MW - 1 @ 21 FT (H100581-11)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: HM			÷	<u></u>	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	528	16.0	03/29/2011	ND	416	104	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: AB				4	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/29/2011	ND	108	108	100	1.11	
DRO >C10-C28	<10.0	10.0	03/29/2011	ND	116	116	100	0.490	
Surrogate. 1-Chlorooctane	105	% 70-130	1						
Surrogate: 1-Chlorooctadecane	104	% 70-130	1						

Sample ID: MW - 2 @ 12 FT (H100581-12)

Chloride, SM4500CI-B	mg/kg		Analyze	Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	464	16.0	03/29/2011	ND	416	104	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	03/29/2011	ND	108	[.] 108	100	1.11	
DRO >C10-C28	28.2	10.0	03/29/2011	ND	116	116	100	0.490	
Surrogate: 1-Chlorooctane	105	% 70-130)						
Surrogate I-Chlorooctadecane	102	% 70-130	1						

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Celey D. Keene, Lab Director/Quality Manager



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Received:	03/25/2011	Sampling Date:	03/24/2011
Reported:	03/31/2011	Sampling Type:	Soil
Project Name:	EME P-8-3 BOOT	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EME P-8-3 BOOT		

Sample ID: MW - 2 @ 18 FT (H100581-13)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	752	16.0	03/29/2011	ND	416	104	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	03/29/2011	ND	108	108	100	1.11	
DRO >C10-C28	<10.0	10.0	03/29/2011	ND	116	116	100	0.490	
Surrogate: 1-Chlorooctane	95 0	% 70-130							
Surrogate. 1-Chlorooctadecane	91.3	% 70-130							

Sample ID: MW - 2 @ 21 FT (H100581-14)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	· % Recovery	True Value QC -	RPD	Qualifier
Chloride	400	16.0	03/29/2011	ND	416	104	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	03/29/2011	ND	108	108	100	1.11	
DRO >C10-C28	<10.0	10.0	03/29/2011	ND	116	116	100	0.490	
Surrogate: 1-Chlorooctane	101	% 70-130							
Surrogate 1-Chlorooctadecane	96 1	% 70-130				•			

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Page 8 of 11



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 SM4500Cl-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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

ARDINAL L'ÀBORATORIES

· · · · · · · · · · · · · · · · · · ·	(505) 393-2326 FAX (505) 393-2	476 [:]	(32	5) 67	3-700				the second second											<u>.</u>		 <u> </u>
Company Name	Rice Operating Company						捫冊		BI	LL TO				•	- 1	ANAI	_YSIS	RE	QUE	ST		
Project Manage	Hack Conder		*****				PíC): #:			4			,			9					
Address: "122	West Taylor						Cö	mpany	i:						·	S	C40					
City: Hobbs	State: NM	Żip	: 882	240			Âtt	n:		· ·	3					Р	Thru					
Phone #: 575-	393-9174 Fax #: 575-3	97-1	471		•		Âď	dress:			•,			. 		Cations/Anions	ЦЦ					
Project #:	Project Owne	r:					Cit	y:			·	à	Σ		T	SI,	ð					
Project Name:	EME P-8-3 Boot					,	Sta	ite:		Zip:	2	ĕ	15	×	٩	5	p				•	
Project Locatio	n: EME P-8-3 Boot				,		Ph	one #:-	-		·	Chlorides	8015	BTEX	exas TPH	ati	Extended					
Sampler Name:	Jordan Woodfin					ì	Fa	€#:					μ T	B	x a	Ü	Ш	¢				
FOR LAB USE ONLY				<u> </u>	MATR	IX T SI		PRESE	RV.	SAMPLI	NG	O	Hd		e	e l	Σ					
Labil.D.	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS	GROUNDWATER WASTEWATER	Solt	SLUDGE	отнея :	ACID/BASE: ICE / COOL	OTHER:	DATE	TIME		L	•		Complete	TPH 8015					
14100581-1	SB 6 @ 9ft	9	1		1			.1		3/24/11	09:00	<u> /</u>	.1.									
2	SB 6 @ 15ft	2	1.		1			1		<u>'</u>]/	09:30	1	✓									
	SB 6 @ 21ft	9_	1,		1				L_,	<u>.</u>	10:00	1	1					÷				
4	SB 7 @ 12ft	g.	1				<u></u>	1		н. ————————————————————————————————————	10:30	<u> </u>										
5	SB 7.@ 21ft	ĴŻ.	1.		V				<u> </u>	<u> </u>		<u> </u>	1	<u> </u>								
lo_	SB 8 @ 9ft	9	1		1.	1.4				<u>.</u>	11:30	 ✓	1									
<u> </u>	SB,8:@ 21ft	12	1	<u> - -</u>	1	╡╤┤	÷		<u> </u>	<u>u</u>	12:00	Ľ,		<u></u>								
	SB 9 @ 15ft	9				- <u> </u> '		V	ļ		01:00		·1.			ļ,	<u><u>=</u></u>					 <u></u>
9	SB.9 @ 21ft	17-	1	<u> '</u>	_ ♥`				 	<u>. 4</u>	01:30	<u> /</u>										
PLEASE NOTE LINU	nd Damages. Card nat's Subday and clicint's exclusive remedy for	Aux chai	m arision	u whelp-	t based in	Centrect	or br	t shudi be h)- mited		i by the chert for	the	l	<u> </u>		Ŀ	<u>I</u>	L				
Unalyses All claims includ corvice. In no ovent shall (affiliates or successors after	ing those for negligence and any other cause whatsnever shall be cardinal be linkle to facilionial or consequented damages, includin ing out of a rel) led to the pastarmance of services hereunder by	deeme g witho Cardina	d waived ut brittati I, regard	t unless i ion, busk less af w	made in ŵr ness Interri Mether suc	tting and mtions. I	incel oss o	lved by Car I use, or los	dinal v sofo	within 30 days after rollis incurred by e	r completion of 0 North, its subsidia Isons or otherwis	he applica nieŭ su.			- <u>-</u>		Phone			,		
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101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603

Fax Result: REMARKS: 'D Yes: D No Add'I Fax #: Jordan Woodfin Tim 0 Received By: Relinquished By: 325 email results Sample Condition Cool Intact Tyes 2 yes No No Hconder@riceswd.com; jwoodfin@rice-ecs.com; Delivered By: (Circle One) CHECKED BY: Lweinheimer@rice-ecs.com kjones@riceswd.com (Initials) Sampler - UPS - Bus - Other:

+ Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

NEED SAMPLES BACK, PLEASE

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

	(505) 393-2326 FAX (505) 393-2	4/6,	(3.	(0) (0)	13-100						1. 1311. HH. H												
Company Name	Rice Operating Company						_		BI	LL TO					, ,	ANAL		5 RE	QUE	ST			
	Mack Conder	<u>-</u> -		P-17			P.(), #: <u>`</u>									40						
Address: 122	West Taylor	<u></u>			<u></u>	.	Cò	mpan	<u>y:</u>	<u></u>						S							
City: Hobbs	State: NM	Zip	: 8 8	240			At	n		<u></u>	·					<u>o</u>	n						
Phone # 575-3	393-9174 Fax #: 575-39	97,- 1	471	, 			Ad	dress	:							-U	Ц						
Project #:	Project Owne	ri:					Čit	y:				ĩñ	Σ		J.	s//	g						
Project Name:	EME P-8-3 Boot		 		• • •	· 	Sta	ito:	· ·	Zip:		Je.	5	\times	ТРН	<u>n</u> o	p						
Project Locatio	n: EME P-8-3 Boot						Ph	one #	¥.			Chlorides	8015	BTEX	S	Cations/Anions	Extended	,					
Sampler Name:	Jordan Woodfin				• •	••	Fa	x #:						В	Texas	Ö	ш	•					
FOR LAB USE ONLY			Γ,		MATR	IX I	·	PRES	ERV.	SAMPLI	NG	\overline{O}	H		Le Le	<u>e</u>	Σ						
- Lab I.D.	Sample I.D.	(C)RABOR (C)OM	# CONTAINERS	GROUNDWATER	SOIL SOIL	SLÜĎČEÌ	OTHER :*	ACID/BASE:	ÓTHER:	DATE	TIME		· J `			Complete	TPH 8015					;	
1100581-10	MW-1'@ 121	9	1				L			3/24/11	02:30	1	·/·										
1	MW-11@.21ft	<u> </u>	1	Ŀ	1			_	1.	14	02:50	1.	1			<u> </u>							
12	MW-2 @ 12ft	9	1		V			✓	4	<u>ių</u>	03:00	<u>·/</u> ·	./	·							``````````````````````````````````````		
. 13	MW-2@18ft	3	1			<u>.</u>	<u> </u>	. 1			03:30	1	1										
94	MW-2 @ 21ft	9_	1		1	_ <u>_</u>	<u> </u>	/	1_	<u>96</u>	03:50	1	1					·					
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101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603

ARDINAL LABORATORIES

PLEASE NOTE:: Liability and Danages. Cardinal's liability and clearts evolutive remody for any dama of any whather based in contract or lost, shall be limited to the annount paid by the cleant for the investigation. All dams including these for non-based and any other canada the applicable: (analyses, All dams) including these for non-based and any other canada the applicable: service; In no event shell Cardinal be lable to methodal or consequenced as major, including webout limbulan, burshess intervolutions, loss of uses of profits included by client, is subcladifies or suscess are twinten out of ar estated to be net mance of aeriviers hereinnitir by Cardinal, returnees of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:	Date/2007 Received By:	Phone Result: 🛛 Yes 🖾 No Add'l Phone #:
in the fail and the	Merris / 11/1 Received by	Fax Result: D. Yes: D No Add'I Fax #:
Jordan Woodfin	Time 7, 30 and	REMARKS:
Relinquished By:	Date Received By:	email results
	1825 year sunder	
Delivered By:) (Circle One)	Sample Condition CHECKED BY:	- Hconder@riceswd.com; jwoodfin@rice-ecs.com;
Denvered DV. (On one on of		Lweinheimer@rice-ecs.com kjones@riceswd com
Sampler - UPS - Bus - Other:	Cool Inteët (Initials)	Emeriniteinine mitce-ecs.com. Voues@ucesmuccout
the second se	No No.	

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

#1/1

NEED SAMPLES BACK, PLEASE

EME P-8-3 boot Unit P, Section 8, T-20-S, R-37-E



Drilling soil bores, facing south



Completed soil bores



Inserting the casing into the well



Plugging the soil bore with bentonite



Drilling MW-1, facing south



Inserted silica sand pack



Adding the bentonite seal



Sealing in the monument



Completed MW-1



Drilling MW-2



Inserting the casing



Adding the silica sand pack



Adding the bentonite seal



Sealing in the monument



Completed MW-2

Appendix B Monitor well sampling laboratory analysis

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



April 18, 2011

Hack Conder Rice Operating Company 112 W. Taylor

Hobbs, NM 88240

RE: EME JCT P-8-3

Enclosed are the results of analyses for samples received by the laboratory on 04/12/11 12:21.

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,

Celu Kene

Celey D. Keene Lab Director/Quality Manager



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

Received:	04/12/2011	Sampling Date:	04/08/2011
Reported:	04/18/2011	Sampling Type:	Water
Project Name:	EME JCT P-8-3	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	T20S-R37E-SEC8 P-LEA CTY., NM		

Sample ID: MONITOR WELL #1 (H100736-01)

BTEX 8260B	mg/	'L	Analyze	d By: CMS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	04/14/2011	ND	0.019	94.8	0.0200	1.38	
Toluene*	<0.001	0.001	04/14/2011	ND	0.019	93.4	0.0200	0.537	
Ethylbenzene*	<0.001	0.001	04/14/2011	ND	0.018	92.3	0.0200	1.09	
Total Xylenes*	<0.003	0.003	04/14/2011	ND	0.055	92.0	0.0600	0.0724	
Surrogate: Dibromofluoromethane	87.9	% 80-120		· · · · · · · · · · · · · · · · · · ·					
Surrogate: Toluene-d8	88.6	% 80-120							
Surrogate: 4-Bromofluorobenzene	81 0	% 80-120							
Chloride, SM4500CI-B	mg/	'L	Analyze	d By: HM	<u>`</u>				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1050	4.00	04/17/2011	ND	104	104	100	0.00	
Sulfate 375.4	mg/	'L	Analyze	d By: HM			•		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate	640	10.0	04/18/2011	ND	39.9	99.8	40.0	0.254	
TDS 160.1	mg/	′L	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS	2870	5.00	04/13/2011	ND				0.699	

Cardinal Laboratories

*=Accredited Analyte

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Celiz 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:	04/12/2011	Sampling Date:	04/08/2011
Reported:	04/18/2011	Sampling Type:	Water
Project Name:	EME JCT P-8-3	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	T20S-R37E-SEC8 P-LEA CTY., NM	,	

Sample ID: MONITOR WELL #2 (H100736-02)

BTEX 8260B	mg/	L	Analyze	d By: CMS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	04/14/2011	ND	0.019	94.8	0.0200	1.38	
Toluene*	<0.001	0.001	04/14/2011	ND	0.019	93.4	0.0200	0.537	
Ethylbenzene*	<0.001	0.001	04/14/2011	ND	0.018	92.3	0.0200	1.09	
Total Xylenes*	<0.003	0.003	04/14/2011	ND	0.055	92.0	0.0600	0.0724	
Surrogate: Dibromofluoromethane	89.9	% 80-120							
Surrogate Toluene-d8	876	% 80-120							
Surrogate. 4-Bromofluorobenzene	79.6	% 80-120					,		
Chloride, SM4500CI-B	mg/	L	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1300	4.00	04/17/2011	ND	104	104	100	0.00	
Sulfate 375.4	mg/	L	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate	761	10.0	04/18/2011	ND	39.9	99.8	40.0	0.254	
TDS 160.1	mg/	L	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS	3160	5.00	04/13/2011	ND				0.699	

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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager

Page 3 of 5



Notes and Definitions

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. Keine

Celey D. Keene, Lab Director/Quality Manager

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