# 1R - 427-02

# REPORTS

DATE:

7-19-13

#### Rice Environmental Consulting & Safety

P.O. Box 2948, Hobbs, NM 88241 Phone 575.393.2967

CERTIFIED MAIL RETURN RECEIPT NO. 7007 2560 0003 0320 5594

July 19th, 2013

#### 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 and Termination Request Rice Operating Company - EME SWD System EME H-10 (1R427-02): UL/H sec. 10 T20S R36E

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 ownership/usage basis.

#### **Background and Previous Work**

The site is located approximately 4.8 miles southwest of Monument, New Mexico at UL/H sec. 10 T20S R36E as shown on the Site Location Map (Figure 1 & 2). An updated study of NM OSE records, conducted in 2013, indicates that groundwater will likely be encountered at a depth of approximately 34 +/- feet.

In 2003, ROC initiated work on the former EME H-10 junction box. The site was delineated using a backhoe to form a 24 ft x 11 ft x 16 ft deep excavation and soil samples were screened at regular intervals for chlorides. From the excavation, the fourwall composite, the bottom composite, and the remediated backfill were taken to a commercial laboratory for analysis. Laboratory tests of the four-wall composite showed a chloride reading of 88.6 mg/kg and a gasoline range organics (GRO) and diesel range organics (DRO) reading of non-detect. The bottom composite showed a chloride laboratory reading of 677 mg/kg and a GRO and DRO reading of non-detect. The remediated backfill showed a chloride laboratory reading of 106 mg/kg, a GRO reading of non-detect and a DRO reading of 65.7 mg/kg. BTEX readings for all three samples were non-detect. A one-foot thick, compacted clay layer was installed at the base of the excavation and the site was backfilled with the remediated soil. The area was contoured to the surrounding landscape since a junction box is no longer necessary at the site. NMOCD was notified of potential groundwater impact on February 24th, 2003 and a

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JUL 23 2013

Oil Conservation Division 1220 S. St. Francis Drive Santa Fe, NM 87505

junction box disclosure report was submitted to NMOCD with all the 2003 junction box closures and disclosures.

An Investigation and Characterization Plan (ICP) was submitted to NMOCD on March 25<sup>th</sup>, 2013 and approved on April 22<sup>nd</sup>, 2013. As part of the ICP, RECS personnel were on site to conduct soil bores on May 8<sup>th</sup>, 2013 (Figure 2). A total of five soil bores were installed at the site. Samples were taken at regular intervals and field tested for chlorides and hydrocarbons. Representative samples were taken to a commercial laboratory for analysis (Appendix A). SB-1 returned laboratory chloride results of 176 mg/kg at 18 ft bgs and 96 mg/kg at 21 ft bgs. SB-2 returned laboratory chloride results of non-detect at the surface, 48 mg/kg at 3 ft bgs and non-detect at 6 ft bgs. SB-3 returned laboratory chloride results of 48 mg/kg at the surface, 3 ft bgs and 6 ft bgs. SB-4 returned laboratory chloride results of non-detect at the surface and 3 ft bgs and 32 mg/kg at 6 ft bgs. SB-5 returned laboratory chloride results of 32 mg/kg at 3 ft bgs, 208 mg/kg at 9 ft bgs and 160 mg/kg at 12 ft bgs. GRO results for all bores at all depth were non-detect. DRO results for all bores at all depths were non-detect except for in SB-2 where the DRO readings were 10.3 mg/kg at 3 ft bgs and 252 mg/kg at 6 ft bgs, and in SB-4 where the DRO reading was 23.2 mg/kg at 3 ft bgs.

All of the soil bore data shows laboratory reading below 250 mg/kg. Therefore, it is evident the residual chloride in the vadose zone will not adversely affect groundwater beneath the site. In addition, the 11 ft x 24 ft clay liner will also inhibit the downward migration of any residual constituents at the site. The site has returned to normal vegetative capacity (Appendix B). 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.

Given that the residual constituents in the vadose zone will not in any way affect groundwater beneath the site and that the clay liner and vegetation will inhibit further migration of constituents to groundwater, ROC respectfully requests 'remediation termination' or similar closure status of the site.

RECS appreciates the opportunity to work with you on this project. Please call Hack Conder at (575) 393-2967 or me if you have any questions or wish to discuss the site.

Sincerely,

Lara Weinheimer Project Scientist

**RECS** 

(575) 441-0431

#### Attachments:

Figure 1 – Site Location Map

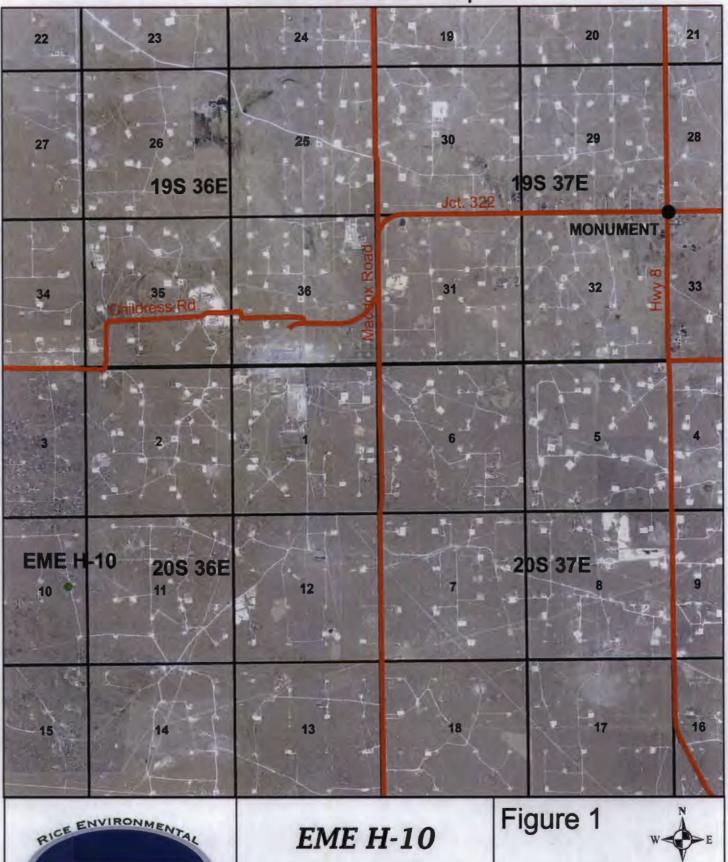
Figure 2 – Close-Up Site Location Map

Figure 3 – Soil Bore Installation Map

Appendix A – Soil Bore Installation Documentation

Appendix B – Site Photo Documentation

# Site Location Map





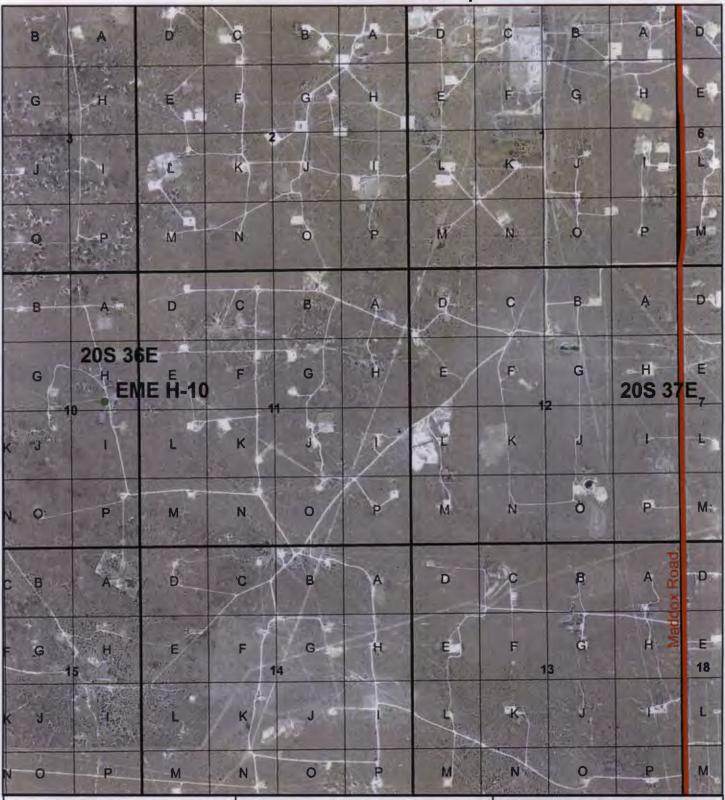
Legals: UL/H sec. 10 T-20-S R-36-E LEA COUNTY, NM NMOCD CASE #: 1R427-02 Figure 1

0 0.275 0.55 1.1

Drawing date: 2-27-13

Drafted by: LS

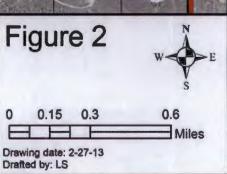
Site Location Map



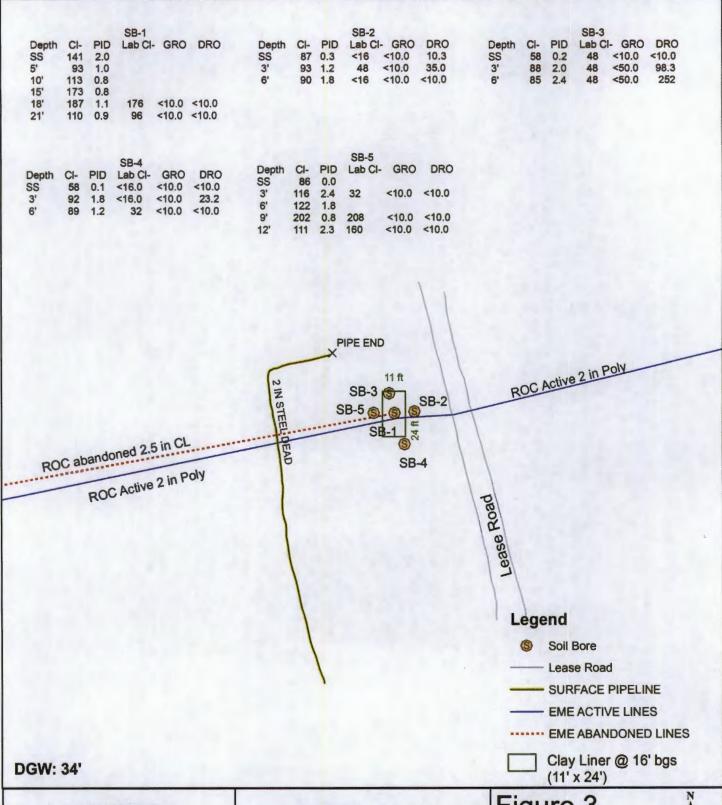


## **EME H-10**

Legals: UL/H sec. 10 T-20-S R-36-E LEA COUNTY, NM NMOCD CASE #: 1R427-02



# Soil Bore Installation Map

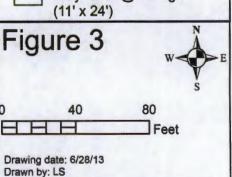


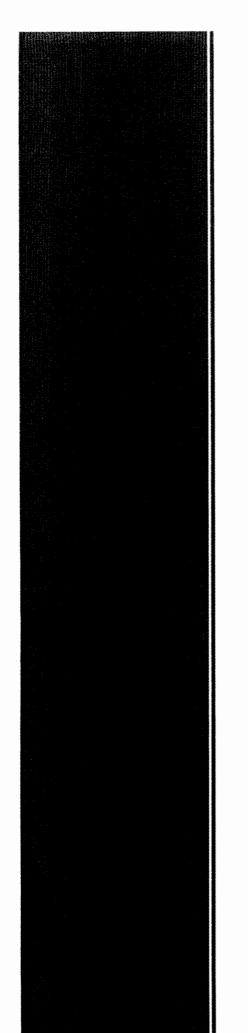


## **EME H-10**

UL/H SECTION 10 T20S, R36E LEA COUNTY, NM

NMOCD Case #: 1R427-02





# Appendix A Soil Bore Installation Documentation

Logger:

Kyle Norman

Driller:

End Date:

Harrison & Cooper, Inc.

**Drilling Method:** Start Date:

Air Rotary 5/8/2013 5/8/2013

All samples were from cuttings.

DRAFTED BY: L. Peña





**Project Name:** 

Well ID: SB-1

**EME H-10** 

Comments: SB-1 is located at the source of the former junction box site.

Project Consultant: RECS Location: UL H, Sec. 10, T20S, R36E

Lat: 32°35'18.287"N

County: Lea

	TD:	= 21 ft			GW = 34 ft	Long: 103°20'8.7	738"W State: NM
Depth	Field Cl <sup>-</sup> (mg/kg)	Cl (mg/kg)	TPH (mg/kg)	PID (ppm)	Description	Lithology	Well Construction
SS	141			2.0	Tan Sand/Caliche Mix		
5 ft	93			1.0	Tan Sand		
10 ft	113			0.8	Caliche/Tan Sand		bentonite
15 ft	173			0.8	Sandy Clay		Seal
18 ft	187	176	GRO <10 DRO <10	1.1			
21 ft	110	96	GRO <10 DRO <10	0.9	Caliche		

Kyle Norman Logger: SB-3 SB-5 Driller: Harrison & Cooper, Inc. **Drilling Method:** Air Rotary **Project Name:** Well ID: Start Date: 5/8/2013 **EME H-10** SB-2 **Project Consultant: RECS** End Date: 5/8/2013 Comments: SB-2 is located 11 ft east of the former junction box site. Location: UL H, Sec. 10, T20S, R36E All samples were from cuttings. DRAFTED BY: L. Peña Lat: 32°35'18.305"N County: Lea State: NM TD = 6 ftGW = 34 ftLong: 103°20'8.611"W Field LAB PID Depth **TPH** Description Lithology **Well Construction** CI CI (mg/kg) (mg/kg) (mg/kg) (ppm) GRO <10 DRO 10.3 SS 87 <16 0.3 bentonite GRO <10 DRO 35.0 Tan Sand/Caliche Mix 3ft 93 48 1.2 seal

> GRO <10 DRO <10

1.8

<16

6 ft

90

Logger: Driller:		Kyle Harrison &	Norman Cooper, I	nc.	SB-3 SB-5 SB-2	Project Name: Well ID:  EME H-10 SB-3  Project Consultant: RECS				
Drilling Me Start Date End Date:		5/8	Rotary /2013 /2013		SB-5 SB-2 SB-1 SB-4					
		s located	10 ft no samples		e former junction box site. om cuttings Peña  GW = 34 ft		Sec. 10, T20S, R36E  "N County: Lea			
Depth	Field Cl <sup>-</sup> (mg/kg)	Cl (mg/kg)	TPH (mg/kg)	PID (ppm)	Description	Lithology	Well Construction			
SS	58	48	GRO <10 DRO <10	0.2	Tan Sand/Caliche Mix					
3 ft	88	48	GRO <50 DRO 98.3	2.0	Tan Sand/Caliche Mix/Slight Hydrocarbon Smell		bentonite			
6 ft 85 48 GRO <50 DRO 252 2.4		2.4								

Logger: Kyle Norman Driller: Harrison & Cooper, Inc. **Drilling Method:** Air Rotary **Project Name:** Well ID: Start Date: 5/8/2013 **EME H-10** SB-4 End Date: 5/8/2013 **Project Consultant: RECS** Comments: SB-4 is located 17.5 ft south of the former junction box site. Location: UL H, Sec. 10, T20S, R36E All samples were from cuttings. Lat: 32°35'18.127"N DRAFTED BY: L. Peña County: Lea State: NM TD = 6 ftLong: 103°20'8.683"W GW = 34 ftLAB **Field** PID Description Lithology **Well Construction** Depth **TPH** CI CI (ppm) (mg/kg) (mg/kg) (mg/kg) SS 58 <16 0.1 DRO <10 Tan Sand/Caliche Mix bentonite GRO <10 DRO 23.2 3 ft 92 <16 1.8 seal Tan Sand/Caliche Mix/Slight

Hydrocarbon Smell

GRO <10

DRO <10

1.2

32

6ft

89

Logger: Kyle Norman Driller: Harrison & Cooper, Inc. SB-5 ... SB-1 **Drilling Method:** Air Rotary **Project Name:** Well ID: Start Date: 5/8/2013 **EME H-10** SB-5 End Date: 5/8/2013 **Project Consultant: RECS** Comments: SB-5 is located 11 ft west of the former junction box site. Location: UL H, Sec. 10, T20S, R36E All samples were from cuttings. DRAFTED BY: L. Peña Lat: 32°35'18.292"N County: Lea State: NM TD = 12 ftGW = 34 ftLong: 103°20'8.869"W LAB **Field** PID **Well Construction** Depth Description CI CI **TPH** Lithology (mg/kg) (mg/kg) (mg/kg) (ppm) SS 86 0.0 Tan Sand/Caliche Mix GRO <10 DRO <10 3 ft 116 32 2.4 bentonite 6 ft 122 1.8 seal Caliche GRO <10 DRO <10 9 ft 202 208 0.8

> GRO <10 DRO <10

2.3

160

12 ft

111



May 13, 2013

Hack Conder

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: EME H-10 20S/36E

Enclosed are the results of analyses for samples received by the laboratory on 05/08/13 15:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> accredited certif.html.

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 (V1, V2, V3)

Accreditation applies to public drinking water matrices.

Celeg & Keine

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. Keene

Lab Director/Quality Manager



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

Received: Reported:

05/08/2013

05/00/2013

05/13/2013

EME H-10 20S/36E

Project Name: Project Number:

NONE GIVEN

Project Location:

NOT GIVEN

Sampling Date:

05/08/2013

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

#### Sample ID: SB 1 @ 18' (H301106-01)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	05/10/2013	ND	432	108	400	0.00	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/13/2013	ND	198	99.2	200	1.21	
DRO >C10-C28	<10.0	10.0	05/13/2013	ND	179	89.7	200	4.30	
Surrogate: 1-Chlorooctane	102	% 65.2-14	10						
Surrogate: 1-Chlorooctadecane	108	% 63.6-15	4						

#### Sample ID: SB 1 @ 21' (H301106-02)

Chloride, SM4500CI-B	mg/kg		Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	05/10/2013	ND	432	108	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/11/2013	ND	198	99.2	200	1.21	
DRO >C10-C28	<10.0	10.0	05/11/2013	ND	179	89.7	200	4.30	
Surrogate: 1-Chlorooctane	104 5	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	112 9	% 63.6-15	4						

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

Fax To:

(575) 397-1471

Received:

05/08/2013

05/13/2013

05/08/2013

Reported:

Sampling Type:

Soil

Project Name:

EME H-10 20S/36E

Sampling Condition:

Sampling Date:

Cool & Intact

Project Number:

NONE GIVEN

113 %

63.6-154

Sample Received By:

Jodi Henson

Project Location:

NOT GIVEN

#### Sample ID: SB 2 @ SURFACE (H301106-03)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	05/10/2013	ND	432	108	400	0.00	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/11/2013	ND	198	99.2	200	1.21	
DRO >C10-C28	10.3	10.0	05/11/2013	ND	179	89.7	200	4.30	
Surrogate: 1-Chlorooctane	106	% 65.2-14	0						

#### Sample ID: SB 2 @ 3' (H301106-04)

Surrogate: 1-Chlorooctadecane

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	05/10/2013	ND	432	108	400	0.00	
TPH 8015M	mg	/kg	Analyze	d By: MS				-111	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/11/2013	ND	198	99.2	200	1.21	
DRO >C10-C28	35.0	10.0	05/11/2013	ND	179	89.7	200	4.30	
Surrogate: 1-Chlorooctane	101	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	108	% 63.6-15	4						

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\*=Accredited Analyte

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Celeg & Kuna



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

Fax To: (575) 397-1471

Received:

05/08/2013

Sampling Date:

05/08/2013

Reported:

05/13/2013

Sampling Type:

Soil

Project Name:

EME H-10 20S/36E

Sampling Condition:

Cool & Intact

Project Number:

NONE GIVEN

Sample Received By:

Jodi Henson

Project Location:

NOT GIVEN

#### Sample ID: SB 2 @ 6' (H301106-05)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	05/10/2013	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS	· · · - · ·				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/11/2013	ND	198	99.2	200	1.21	
DRO >C10-C28	<10.0	10.0	05/11/2013	ND	179	89.7	200	4.30	
Surrogate: 1-Chlorooctane	101	% 65.2-14	10						
Surrogate: 1-Chlorooctadecane	106	% 63.6-15	4						

#### Sample ID: SB 3 @ SURFACE (H301106-06)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	05/10/2013	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/11/2013	ND	198	99.2	200	1.21	
DRO >C10-C28	<10.0	10.0	05/11/2013	ND	179	89.7	200	4.30	
Surrogate: 1-Chlorooctane	109	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	113	% 63.6-15	4						

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Celegit Keens



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

Fax To: (575) 397-1471

Received:

05/08/2013

Sampling Date:

05/08/2013

Reported:

05/13/2013

Sampling Type:

Soil

Project Name:

EME H-10 20S/36E

Sampling Condition:

Cool & Intact

Project Number: Project Location:

NONE GIVEN

126 %

63.6-154

NOT GIVEN

Sample Received By: Jodi Henson

#### Sample ID: SB 3 @ 3' (H301106-07)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	05/10/2013	ND	432	108	400	0.00	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<50.0	50.0	05/11/2013	ND	198	99.2	200	1.21	
DRO >C10-C28	98.3	50.0	05/11/2013	ND	179	89.7	200	4.30	
Surrogate: 1-Chlorooctane	109	% 65.2-14	0						

### Surrogate: 1-Chlorooctadecane 117 % 63.6-154

#### Sample ID: SB 3 @ 6' (H301106-08)

Chloride, SM4500CI-B	mg/kg		Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	05/10/2013	ND	432	108	400	0.00	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<50.0	50.0	05/11/2013	ND	198	99.2	200	1.21	
DRO >C10-C28	252	50.0	05/11/2013	ND	179	89.7	200	4.30	

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Surrogate: 1-Chlorooctadecane

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Celeg E. Kuna



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

(575) 397-1471 Fax To:

Received: 05/08/2013 Reported:

05/13/2013 Project Name: EME H-10 20S/36E Project Number: NONE GIVEN NOT GIVEN

Sampling Date:

05/08/2013

Sampling Type: Soil

Sampling Condition: Sample Received By:

Cool & Intact Jodi Henson

Project Location:

#### Sample ID: SB 4 @ SURFACE (H301106-09)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	05/10/2013	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/11/2013	ND	198	99.2	200	1.21	
DRO >C10-C28	<10.0	10.0	05/11/2013	ND	179	89.7	200	4.30	
Surrogate: 1-Chlorooctane	103	% 65.2-14	0		***				
Surrogate: I-Chlorooctadecane	101	% 63.6-15	4						

#### Sample ID: SB 4 @ 3' (H301106-10)

Chloride, SM4500Cl-B	mg	'kg	Analyze	d By: DW		•			
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	05/10/2013	ND	432	108	400	0.00	
TPH 8015M	mg,	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/11/2013	ND	198	99.2	200	1.21	
DRO >C10-C28	23.2	10.0	05/11/2013	ND	179	89.7	200	4.30	
Surrogate: 1-Chlorooctane	105	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	117	% 63.6-15	4						

#### Cardinal Laboratories \*=Accredited Analyte

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Celeg & Keine



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

(575) 397-1471 Fax To:

Received:

05/08/2013

Sampling Date:

05/08/2013

Reported:

05/13/2013

Sampling Type:

Soil

Project Name:

EME H-10 20S/36E

Sampling Condition:

Cool & Intact

Project Number: Project Location: NONE GIVEN

Sample Received By:

Jodi Henson

NOT GIVEN

#### Sample ID: SB 4 @ 6' (H301106-11)

Chloride, SM4500Cl-B	mg,	kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	05/10/2013	ND	432	108	400	0.00	
TPH 8015M	mg	/kg	Analyze	Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/11/2013	ND	198	99.2	200	1.21	
DRO >C10-C28	<10.0	10.0	05/11/2013	ND	179	89.7	200	4.30	
Surrogate: 1-Chlorooctane	106	% 65.2-14	10						
Surrogate: 1-Chlorooctadecane	116	% 63.6-15	4						

#### Sample ID: SB 5 @ 3' (H301106-12)

Chloride, SM4500CI-B	mg/	'kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	05/10/2013	ND	432	108	400	0.00	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/11/2013	ND	198	99.2	200	1.21	
DRO >C10-C28	<10.0	10.0	05/11/2013	ND	179	89.7	200	4.30	
Surrogate: 1-Chlorooctane	107	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	115	% 63.6-15	4						

\*=Accredited Analyte Cardinal Laboratories

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Celey & Kiena



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

Fax To: (575) 397-1471

Received:

05/08/2013

Sampling Date:

05/08/2013

Reported:

05/13/2013 EME H-10 20S/36E Sampling Type: Sampling Condition: Soil

Project Name: Project Number:

NONE GIVEN

Sample Received By:

Cool & Intact Jodi Henson

Project Location:

NOT GIVEN

#### Sample ID: SB 5 @ 9' (H301106-13)

Chloride, SM4500CI-B	ride, SM4500CI-B mg/kg		Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	05/10/2013	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/11/2013	ND	198	99.2	200	1.21	
DRO >C10-C28	<10.0	10.0	05/11/2013	ND	179	89.7	200	4.30	
Surrogate: 1-Chlorooctane	111	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	121	% 63.6-15	4						

#### Sample ID: SB 5 @ 12' (H301106-14)

Chloride, SM4500CI-B	OCI-B mg/kg		Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	05/10/2013	ND	432	108	400	0.00	
TPH 8015M	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/11/2013	ND	200	99.8	200	2.68	
DRO >C10-C28	<10.0	10.0	05/11/2013	ND	187	93.7	200	4.43	
Surrogate: 1-Chlorooctane	108 5	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	115 9	% 63.6-15	4						

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Celeg & Kuna



#### **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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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

1 of 2

#### ARDINAL LABORATORIES

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

Company Name	: O ( -		(					ILL TO	latti a Sigila	4				ANA	YSIS	RE	QUE	ST	 	
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Project Manage	Hack Conder					1	U. #.		· · · · · · · · · · · · · · · · · · ·	ł										
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City: Hobbs	State: NM	Zip:	882	240		Attn:								0					İ	
Phone #:	Fax #:					Ad	ldress:							٩n					.	
Project #:	Project Owner	:				Cit	ty:			S	8015 M		エ	s/						
Project Name:						St	ate:	Zip:		e		×	TPH	o						
Project Location	: EME H-10 205-3	6E	<u> </u>			Ph	one #:			Chlorides		BTEX	Texas	Cations/Anions	TDS					
Sampler Name:	Kyle Norman						x #:			ΙĔ		B	ι α α	$\circ$					1	
FOR LAB USE ONLY				M	TRIX	_	PRESER	/ SAMPL	ING	O	표		9	te						
Lab I.D. H <b>3</b> 01106	Sample I.D.	(G)RAB OR (C)ON	# CONTAINERS	GROUNDWATER WASTEWATER	OIL	OTHER:	ACID/BASE: ICE / COOL	DATE	TIME					Complete						
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3	SB2@ Surface	6					V	1,	9:30	1	1									
4	SB2@3'	G	1	V		L	1/	<u> </u>	9:50	1	1									
. 5	SB2@ 6'	G	1				. 1/	11	10:20	1/	1									
6	SB3@ Surface	S	1	1			1/	11	11110	1	1									
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8	SB3@ 6'	G	1	V		ŀ	J	11	11:45	1	/									
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PLEASE NOTE: Usbility and Damages. Cardinal's fishifity and client's exclusive remody for any claim arising whether based in contract or fort, shall be limited to the amount paid by the client for the analyses. At claims including those for negligence and any other cause whatsoever shall be desired welved unless made in writing and received by Cerdinal within 30 days after completion of the applicable service, in no event shall Cardinal be liable for incidental or consequental damages, including without similarly, business the incruptions, loss of use, or loss of profits incurred by client, its substitutions.

\*\*Tested as expression and on a service of the incidental or consequential damages, including without similarly, business the incruptions, loss of use, or loss of profits incurred by client, its substitutions.

\*\*Tested as expression and on a service of the incidental or consequential damages.\*\* The incidental or consequential damages including which the incidental or consequential damages. The incidental or consequential damages incidental or consequential damages. The incidental or consequential damages in the incidental or consequential damages. The incidental or consequential damages incidental or consequential damages. The incidental or consequential damages in the incidental or consequential damages. The incidental or consequential damages incidental or consequential damages. The incidental or consequential damages incidental or consequential damages. The incidental or consequential damages incidental or consequential damages. The incidental or consequential damages incidental or consequential damages. The incidental or consequential damages incidental or consequential damages. The incidental or consequential damages incidental or consequential damages. The incidental or consequential damages incidental or consequential damages. The incidental or consequential damages in consequential damages in consequential damages. The incidental or consequential damages in consequential damages in consequential

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Relinquished By:	Date:	Received By:	email results: zconder@rice-ecs.com
	1	<b>U</b>	
1 '	Time:		Knorman@rice-ecs.com; lpena@riceswd.com
	1	•	
Bullium of Day (Circle One)		Sample Condition CHECKED BY:	Kjones@riceswd.com; Bbaker@rice-ecs.com;
Delivered By: (Circle One)		7,17,1	
		Cool Intact dities	hconder@rice-ecs.com; Lweinheimer@rice-ecs.com
Sampler - UPS - Bus - Other:		No No	
		No No	L

<sup>†</sup> Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

2 of 2

#### ARDINAL LABORATORIES

#### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name	: Rice					BILL TO								,	ANAL	YSIS	RE	QUE	ST			
Project Manage	r: Hack Conder					P.	0. #:															
Address:						C	Company:							ည								
City: Hobbs	State: N	IM Zip:	882	240		At	tn:								Cations/Anions							
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Sampler Name:	Kyle Norman					Fa	x #:				글		В	×a		Τ						
FOR LAB USE ONLY		ا م	-	MA	TRIX	1	PRES	ERV.	SAMPL	ING	O	TPH		Texas	Ę.							1
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS	GROUNDWATER WASTEWATER SOIL	OIL	OTHER:	ACID/BASE:	OTHER:	DATE	TIME		•		-	Complete							
9	SB 4@ Surface	a	1	V					5-8-13		1	1										
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13	SB5@ 9'	-	-		4	+	·   V	4	1	2:45	1	1						<b></b>		· .		
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PLEASE NOTE: Liability as	nd Damages. Cardinal's liability and client's exclusive rem	edy for any claim	arising	whether bas	d in contr	act or to	rt, shall be	limited	to the amount pa	id by the client for	the											

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim scising whether based in contract or tort, shall be limited to the amount paid by the client's for the enabyses. All claims including those for negligence and eny other cause whetherever shall be deemed welved unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be fable for incidental or consequents demages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries.

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Relinquished By:	Date:	eceived By:	email results: zconder@rice-ecs.com
<b>'</b>	Time:		Knorman@rice-ecs.com; lpena@riceswd.com
			Kjones@riceswd.com; Bbaker@rice-ecs.com;
Delivered By: (Circle One)		Sample Condition CHECKED MY:	
Sampler - UPS - Bus - Other:		Cool Intact (Intials)  If yes ID yes  No No	hconder@rice-ecs.com; Lweinheimer@rice-ecs.com

F54

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# EME H-10 (1R427-02)

UL/H sec. 10 T-20-S R-36-E



Site photo, facing north

6/18/13



Site photo, facing east

6/18/13