1R - 427-362

REPORTS

DATE:

8-7-13

Rice Environmental Consulting & Safety
P.O. Box 2948, Hobbs, NM 88241
Phone 575.393.2967

CERTIFIED MAIL
RETURN RECEIPT NO. 7007 2560 0000 4569 8241

August 7th, 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 C-5 EOL (1R427-362): UL/C sec. 5 T21S 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 7 miles south of Monument, New Mexico at UL/C sec. 5 T21S R36E as shown on the Site Location Maps (Figure 1 & 2). Groundwater at this site is located approximately 180 +/- feet below ground surface (bgs).

In 2011, ROC initiated work on the former EME C-5 EOL junction box. The site was delineated using a backhoe to form a 25 ft x 15 ft x 12 ft deep excavation and soil samples were screened at regular intervals for both hydrocarbons and chlorides. From the excavation, the four-wall composite, the bottom composite and the blended backfill were taken to a commercial laboratory for analysis. Laboratory tests of the four-wall composite showed a chloride reading of 304 mg/kg, a gasoline range organics (GRO) reading of non-detect and a diesel range organics (DRO) reading of 50.7 mg/kg. The bottom composite showed a chloride laboratory reading of 912 mg/kg, a GRO reading of non-detect and a DRO reading of 73.7 mg/kg. The blended backfill showed a chloride laboratory reading of 256 mg/kg, and GRO reading of non-detect and a DRO reading of 31.5 mg/kg. The site was backfilled with the blended soil and the area was contoured to the surrounding landscape. A total of 72 yards of blended soil was taken to a NMOCD

approved facility for disposal. On December 28th, 2011, the site was seeded with a blend of native vegetation. NMOCD was notified of potential groundwater impact on April 9th, 2012 and a junction box disclosure report was submitted to NMOCD with all the 2011 junction box closures and disclosures.

On June 24th, 2013, ROC submitted an Investigation and Characterization Plan (ICP) to NMOCD, which was approved on July 2nd, 2013. As part of the ICP, two soil bores were installed at the site on July 25th, 2013 (Figure 3). As the bores were being advance, soil samples were taken at regular intervals and field tested for chlorides and hydrocarbons. Representative samples from each bore were taken to a commercial laboratory for analysis. SB-1 returned laboratory chloride values of 128 mg/kg at 15 ft and 20 ft bgs, while SB-2 returned chloride values of 496 mg/kg at 10 ft bgs and 128 mg/kg at 25 ft bgs. GRO readings were non-detect in both bores at all depths. DRO readings in SB-1 returned results of 21.5 mg/kg at 15 ft bgs and 17 mg/kg at 20 ft bgs, while DRO reading in SB-2 returned results of non-detect (Appendix A).

Given, the low levels of chlorides and hydrocarbons in the soil bores and depth to groundwater, it is evident that the residual constituents in the vadose zone will not it anyway affect groundwater beneath the site. Since, the former junction box site is located on an active lease pad, seeding of the site is not warranted (Appendix B). Therefore, 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 – Geographical Location Map
- Figure 3 – Soil Bore Installation Map
- Appendix A – Soil Bore Installation Documentation
- Appendix B – Site Photos

Figures

RICE Environmental Consulting and Safety (RECS)
P.O. Box 2948 Hobbs, NM 88241
Phone 575.393.2967

Site Location Map

RICE ENVIRONMENTAL RECS CONSULTING & SAFETY, LLC

EME C-5 EOL

LEGALS: UL/C sec. 5
T-21-S R-36-E
LEA COUNTY, NM

NMOCD CASE #: 1R427-362

Figure 1

N W E S

0 1 2 Miles

Drawing date: 3/4/13
Drafted by: L. Weinheimer

Geographical Location Map

RICE ENVIRONMENTAL RECS CONSULTING & SAFETY, LLC

EME C-5 EOL

LEGALS: UL/C sec. 5
T-21-S R-36-E
LEA COUNTY, NM

NMOCD CASE #: 1R427-362

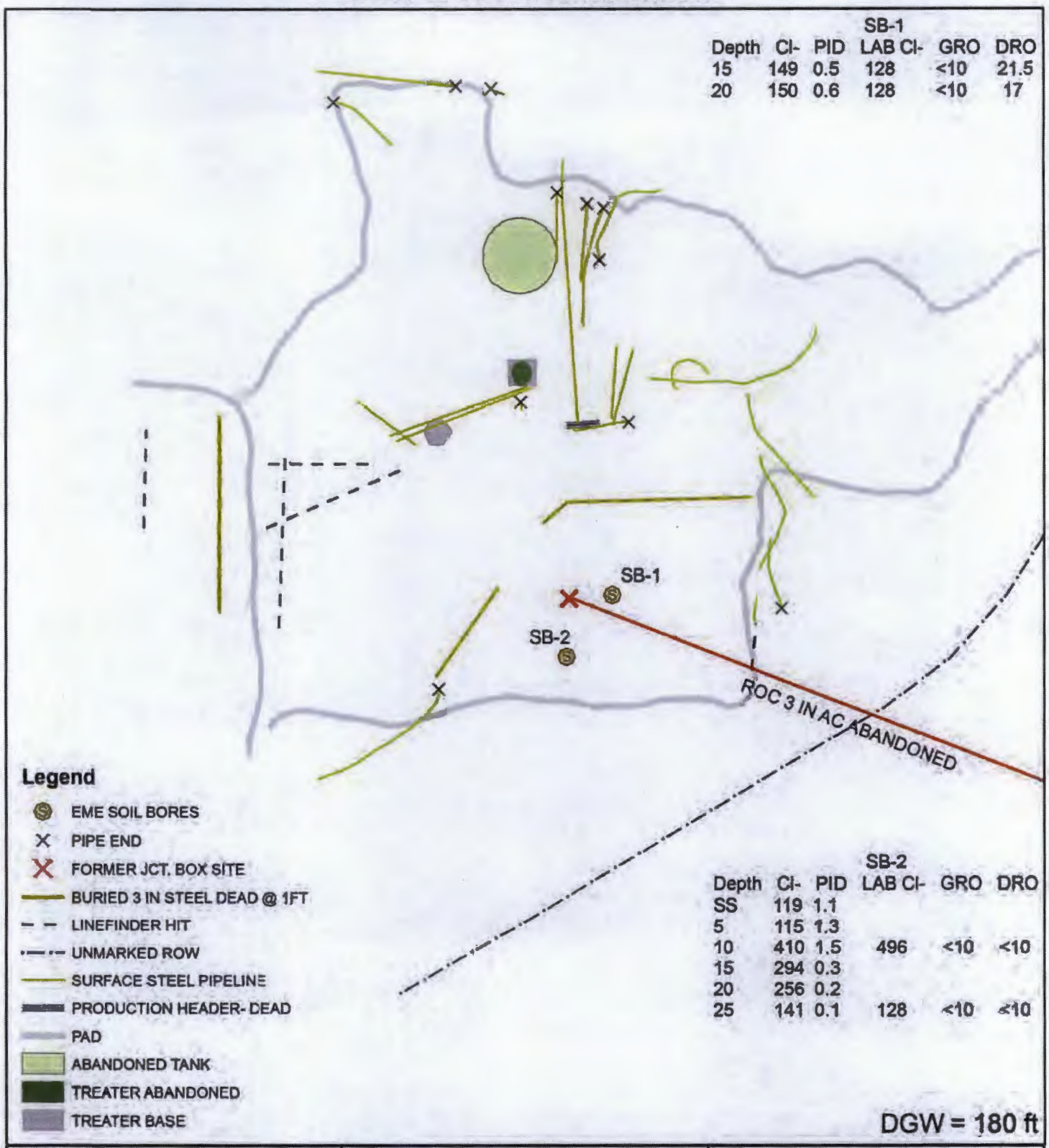
Figure 2

N W E S

0 0.2 0.4 Miles

Drawing date: 6/20/13
Drafted by: L. Weinheimer

Soil Bore Installation



RICE ENVIRONMENTAL RECS CONSULTING & SAFETY, LLC

EME C-5 EOL

LEGALS: UL/C sec. 5
T-21-S R-36-E
LEA COUNTY, NM

NMOCD CASE #: 1R427-362

Figure 3

N W E S

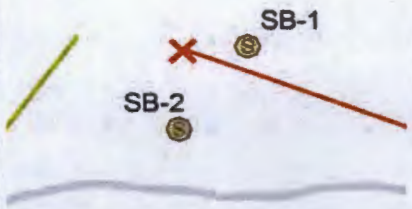
0 30 60 Feet

Drawing date: 7/29/13
Drafted by: L. Weinheimer

Appendix A

Soil Bore Installation Documentation

RICE Environmental Consulting and Safety (RECS)
P.O. Box 2948 Hobbs, NM 88241
Phone 575.393.2967

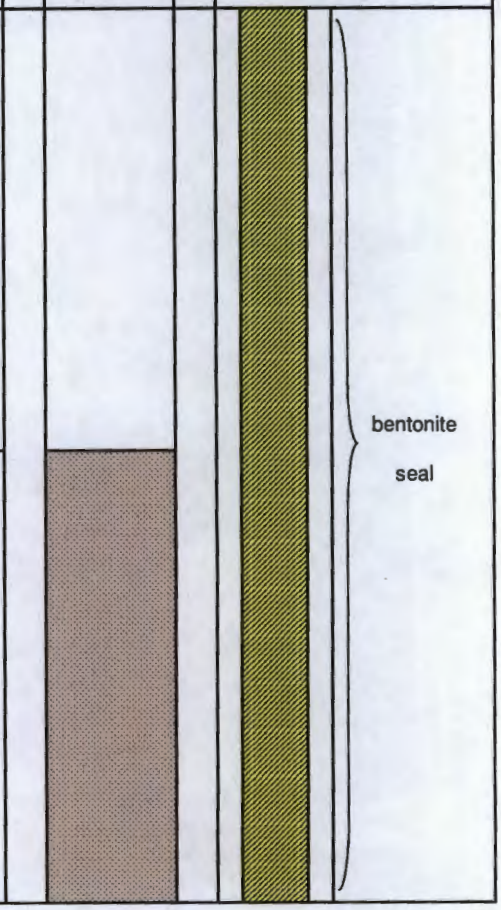
Logger:	Edward Cesareo		**Project Name:** EME C-5 EOL **Well ID:** SB-1
Driller:	Harrison & Cooper, Inc.		**Project Consultant:** RECS
Drilling Method:	Air Rotary		**Location:** UL/C sec. 5 T21S R36E
Start Date:	7/25/2013		**Lat:** 32°31'9.213"N **County:** Lea
End Date:	7/25/2013		**Long:** 103°17'28.395"W **State:** NM

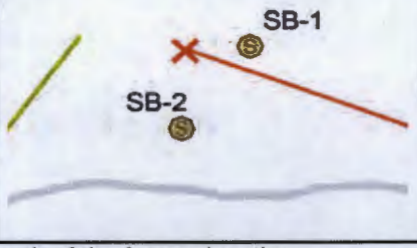
Comments: SB-1 is located 10 ft east of the former junction box site. All samples were from cuttings.

DRAFTED BY: L. Weinheimer

TD = 20 ft GW = 162 ft

Depth (feet)	Chloride field tests	LAB	PID	Description
				REGOLITH
SS				
5 ft				
10 ft				
				TAN SAND
15 ft	149	Cl- 128	0.5	
		GRO <10		
		DRO 21.5		
20 ft	150	Cl- 128	0.6	
		GRO <10		
		DRO 17		



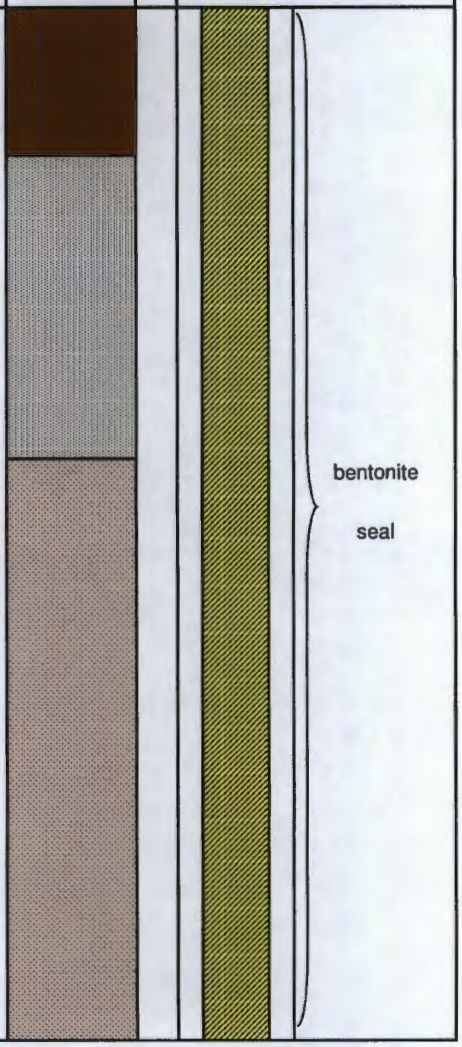
Logger:	Edward Cesareo		**Project Name:** EME C-5 EOL **Well ID:** SB-2
Driller:	Harrison & Cooper, Inc.		**Project Consultant:** RECS
Drilling Method:	Air Rotary		**Location:** UL/C sec. 5 T21S R36E
Start Date:	7/25/2013		**Lat:** 32°31'9.091"N **County:** Lea
End Date:	7/25/2013		**Long:** 103°17'28.504"W **State:** NM

Comments: SB-2 is located 15 ft south of the former junction box site. All samples were from cuttings.

DRAFTED BY: L. Weinheimer

TD = 20 ft GW = 162 ft

Depth (feet)	Chloride field tests	LAB	PID	Description
				BROWN SAND
SS	119		1.1	
				CALICHE
5 ft	115		1.3	
10 ft	410	Cl- 496	1.5	
		GRO <10		TAN SAND
		DRO <10		
15 ft	294		0.3	
20 ft	256		0.2	
25 ft	141	Cl- 128	0.1	
		GRO <10		
		DRO <10		



CARDINAL Laboratories

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

July 29, 2013

KYLE NORMAN

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

419 W. CAIN

HOBBS, NM 88240

RE: EME C-5 EOL

Enclosed are the results of analyses for samples received by the laboratory on 07/26/13 9:11.

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 www.tceq.texas.gov/field/qa/lab_accred_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.

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

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

RICE ENVIRONMENTAL CONSULTING & SAFETY
KYLE NORMAN
419 W. CAIN
HOBBS NM, 88240
Fax To: (575) 397-1471

Received:	07/26/2013	Sampling Date:	07/25/2013
Reported:	07/29/2013	Sampling Type:	Soil
Project Name:	EME C-5 EOL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	NOT GIVEN		

Sample ID: SB #1 @ 15' (H301759-01)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**128**	16.0	07/29/2013	ND	400	100	400	3.92	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/26/2013	ND	188	93.9	200	7.00	
DRO >C10-C28	**21.5**	10.0	07/26/2013	ND	195	97.4	200	9.12	

Surrogate: 1-Chlorooctane	*80.6 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*105 %*	*63.6-154*

Sample ID: SB #1 @ 20' (H301759-02)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**128**	16.0	07/29/2013	ND	400	100	400	3.92	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/26/2013	ND	188	93.9	200	7.00	
DRO >C10-C28	**17.0**	10.0	07/26/2013	ND	195	97.4	200	9.12	

Surrogate: 1-Chlorooctane	*78.4 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*102 %*	*63.6-154*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

RICE ENVIRONMENTAL CONSULTING & SAFETY
KYLE NORMAN
419 W. CAIN
HOBBS NM, 88240
Fax To: (575) 397-1471

Received:	07/26/2013	Sampling Date:	07/25/2013
Reported:	07/29/2013	Sampling Type:	Soil
Project Name:	EME C-5 EOL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	NOT GIVEN		

Sample ID: SB #2 @ 10' (H301759-03)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**496**	16.0	07/29/2013	ND	400	100	400	3.92	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/26/2013	ND	188	93.9	200	7.00	
DRO >C10-C28	<10.0	10.0	07/26/2013	ND	195	97.4	200	9.12	

Surrogate: 1-Chlorooctane	*76.2 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*93.0 %*	*63.6-154*

Sample ID: SB #2 @ 25' (H301759-04)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**128**	16.0	07/29/2013	ND	400	100	400	3.92	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/26/2013	ND	188	93.9	200	7.00	
DRO >C10-C28	<10.0	10.0	07/26/2013	ND	195	97.4	200	9.12	

Surrogate: 1-Chlorooctane	*84.4 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*106 %*	*63.6-154*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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 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

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

Company Name: ROC	BILL TO
Project Manager: Kyle Norman	P.O. #:
Address:	Company:
City: State: Zip:	Attn:
Phone #: Fax #:	Address:
Project #: Project Owner:	City:
Project Name:	State: Zip:
Project Location: EME C-5 EOL T-21S R-36E	Phone #:
Sampler Name: Kyle Schmaidt	Fax #:

FOR LAB USE ONLY				MATRIX							PRESERV.			SAMPLING		ANALYSIS REQUEST	
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME	Cl-	TPH
H301759																
1	SB#1@ 15'		1			X					X		7-25-13	2:00	X	X
2	SB#1 @ 20'		1			X					X		7-25-13	2:05	X	X
3	SB2@ 10'		1			X					X		7-25-13	3:20	X	X
4	SB2@ 25'		1			X					X		7-25-13	3:25	X	X

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 the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental 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 services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: Kyle Schmaidt	Date: 7/26/13 Time: 9:11	Received By:	Phone Result: ☐ Yes ☐ No Add'l Phone #:
Relinquished By:	Date: Time:	Received By:	Fax Result: ☐ Yes ☐ No Add'l Fax #:
Delivered By: (Circle One) Sampler - UPS - Bus - Other: -0.2°C	Sample Condition Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	CHECKED BY: (Initials) CDL	REMARKS: hcondor@rice-ecs.com Knorman@rice-ecs.com jkamplain@rice-ecs.com Kschmaidt@rice-ecs.com lweinheimer@rice-ecs.com

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

Appendix B

Site Photo

RICE Environmental Consulting and Safety (RECS)
P.O. Box 2948 Hobbs, NM 88241
Phone 575.393.2967

EME C-5 EOL (1R427-362)

UL/C sec. 5 T-21-S R-36-E

Collecting sample from SB-1, facing north (Abandoned Facility in Background) 7/25/13

Drilling SB-1, facing south (Abandoned Facility in Foreground) 7/25/13