

1R - 427-360

**APPROVALS**

**YEAR(S):**

2013

**Hansen, Edward J., EMNRD**

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**From:** Hansen, Edward J., EMNRD  
**Sent:** Tuesday, September 10, 2013 3:53 PM  
**To:** Hack Conder (hconder@riceswd.com)  
**Cc:** Leking, Geoffrey R, EMNRD; Laura Pena (lpena@riceswd.com); Katie Jones <kjones@riceswd.com> (kjones@riceswd.com); Scott Curtis (scurtis@riceswd.com)  
**Subject:** Remediation Plan (1R427-360) Termination - ROC EME C-10 EOL Site

**RE: Termination Request  
for the Rice Operating Company's  
EME C-10 EOL Site  
Unit Letter C, Section 10, T21S, R36E, NMPM, Lea County, New Mexico  
Remediation Plan (1R427-360) Termination**

Dear Mr. Conder:

The New Mexico Oil Conservation Division (OCD) has received Rice Operating Company's report and request to close the above-referenced site, dated September 5, 2013 (received September 9, 2013). The report is acceptable to the OCD.

The above-referenced report, submitted in accordance with 19.15.29 NMAC (Rule 29; formally, Rule 116), indicates that Rice Operating Company has met the requirements of 19.15.29 NMAC; therefore, the OCD approves the report and hereby notifies you that the remediation plan (1R427-360) is terminated in accordance with 19.15.29 NMAC.

Please be advised that OCD approval of this report does not relieve the owner/operator of responsibility should operations pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the owner/operator of responsibility for compliance with any OCD, federal, state, or local laws and/or regulations.

If you have any questions regarding this matter, please contact me at 505-476-3489.

Edward J. Hansen  
Hydrologist  
Environmental Bureau

# RICE *Operating Company*

122 West Taylor • Hobbs, New Mexico 88240

Phone: (575) 393-9174 • Fax: (575) 397-1471

CERTIFIED MAIL

RETURN RECEIPT NO. 7007 2560 0000 4569 8920

September 5, 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

2013 SEP - 4 PM 1:03  
RECEIVED

RE: Termination Request  
EME C-10 EOL (1R427-360): UL/C, Sec. 10, T21S, R36E  
RICE Operating Company – Eunice Monument Eumont SWD System

Mr. Hansen:

Rice Operating Company (ROC) is the service provider (agent) for the EME Saltwater Disposal (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**

In 2010, ROC initiated work on the former C-10 EOL junction box. The site is located in UL/C, Sec. 10, T21S, R36E. NM OSE records indicate that groundwater would likely be encountered at a depth of approximately 200 +/- feet. The site was delineated using a backhoe to collect soil samples at regular intervals, creating a 30x10x12 ft deep excavation. Each sample was field titrated for chlorides and field screened using a PID for hydrocarbons, resulting in chloride concentrations that decreased with depth and low PID readings. The excavated soil was blended on site and representative composite samples of the excavation walls, bottom and blended backfill were sent to a commercial for analysis of chloride and TPH, resulting in a 4-wall chloride concentration of 640 mg/kg and concentrations of gasoline range organics (GRO) concentration and diesel range organics (DRO) below detectable limits. The bottom composite resulted in a chloride concentration of 592 mg/kg and concentrations of GRO and DRO below detectable limits. The blended backfill resulted in a chloride concentration of 528 mg/kg and concentrations of GRO and DRO below detectable limits. The excavation was backfilled with the blended, excavated soil to 2 ft below ground surface. The remaining excavation was backfilled with clean imported soil to ground surface and contoured to the surrounding area. On 10/27/2010, the site was seed with a blend of native vegetation.

On 4/3/2013, soil amendments were added to the site and the site was reseeded with a blend of native vegetation. Vegetation will act as an evapo-transpiration barrier that will also inhibit the downward migration of chlorides and hydrocarbons. Plants capture water through their roots and so reduce the amount of water infiltrating below the root zone. The site revegetation form and photos of these activities are attached.

A Termination Request was submitted to NMOCD on May 8, 2013. On May 23, 2013, NMOCD requested further delineation of the site.

#### **Further investigation**

To further investigate the depth of chloride presence, a soil bore was initiated on June 18, 2013 at 8 ft east of the former junction box site. The boring was advanced to a depth of 40 ft below ground surface (bgs) with soil samples collected every 5 ft. Each sample was field titrated for chlorides and field screened using a PID for hydrocarbons, resulting in concentrations that did not change with depth. The 15 ft and 40 ft samples were sent to a commercial laboratory for analysis. The 15 ft samples resulted in a chloride concentration of 400 mg/kg and concentrations of GRO and DRO below detectable limits. The 40 ft sample resulted in a chloride concentration of 224 mg/kg and concentrations of GRO and DRO below detectable limits. The entire bore hole was plugged with bentonite to ground surface.

The junction box site location map, area map, soil bore plat, logs, laboratory analysis and photodocumentation are attached.

#### **Recommendations**

Site investigation demonstrates that residual chloride and hydrocarbons in the vadose zone will not with reasonable probability contaminate groundwater in excess of NMOCD standards. This site meets the requirements of the NMOCD-approved Revised Junction Box Upgrade Work Plan (July 16, 2003). As such, ROC request termination of the regulatory file, or similar closure status.

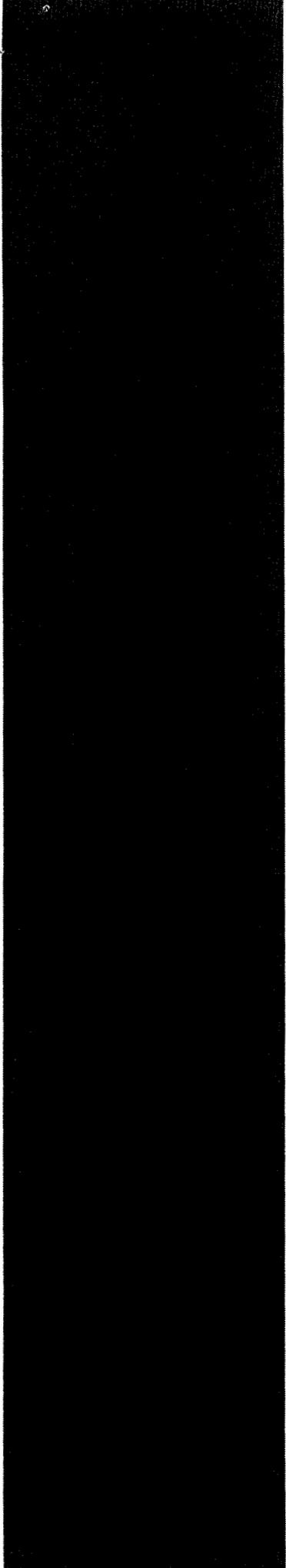
Please contact me at (575)393-2967 if you have any questions or wish to discuss this site. Thank you for your time and consideration.

Sincerely,  
RICE Operating Company



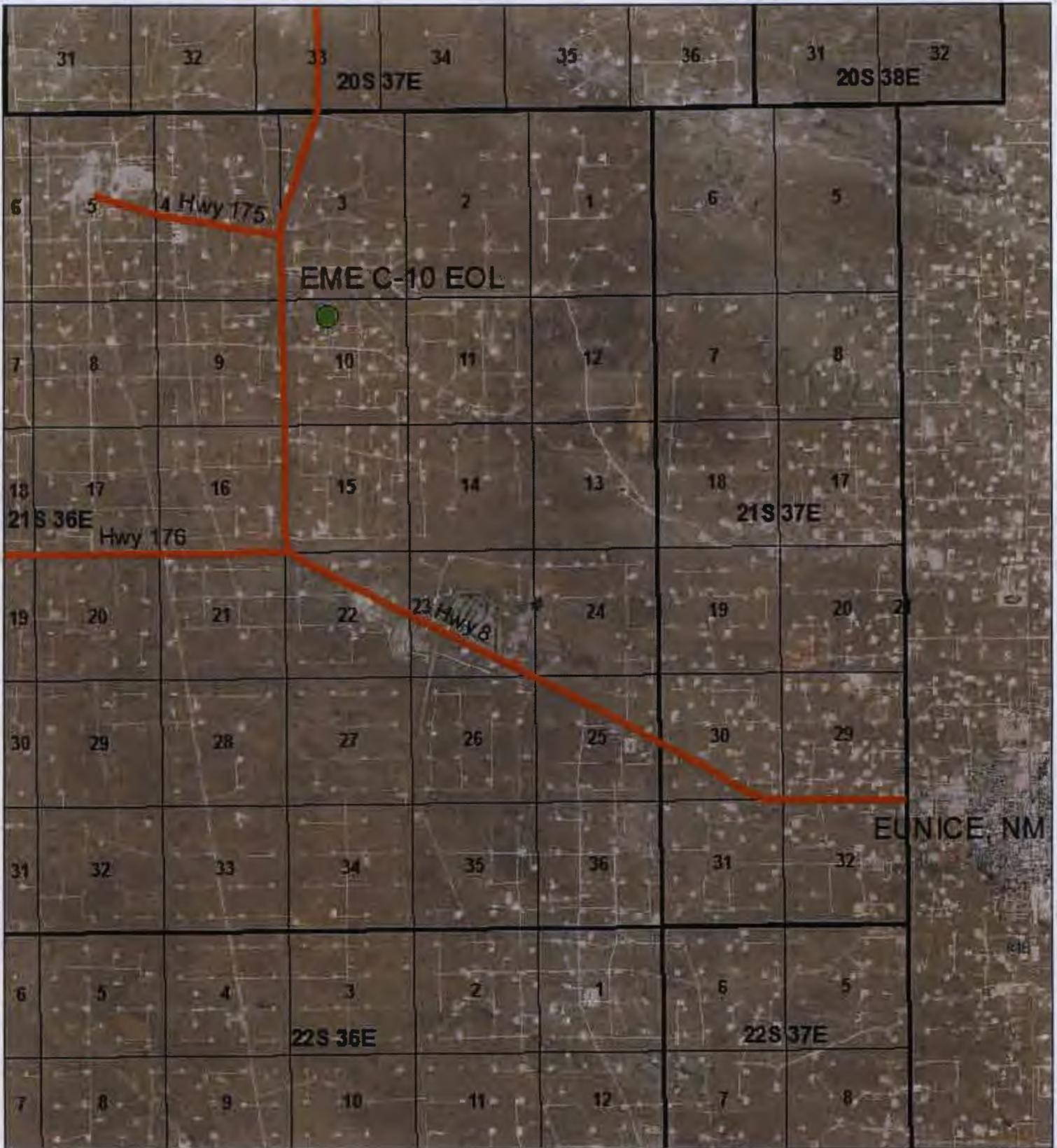
Hack Conder  
Environmental Manager

enclosures



## Site Maps

**RICE *Operating Company* (ROC)**  
112 West Taylor Hobbs, NM 88240  
Phone: (575) 393-9174 Fax: (575) 397-1471



# EME C-10 EOL

UL C SECTION 10  
T-21-S R-36-E  
LEA COUNTY, NM



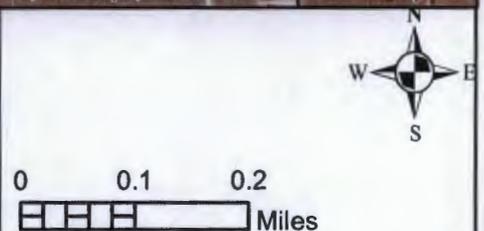
Drawing date: 1/21/13  
Drafted by: Tony Grieco

# Area Map

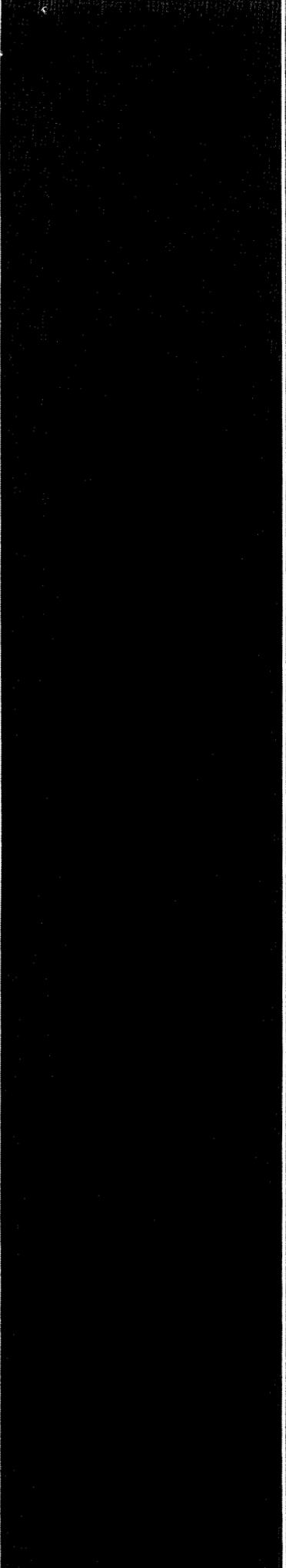


**EME**  
**C-10 EOL**  
UL C SECTION 10  
T-21-S R-36-E  
LEA COUNTY, NM

NMOCS Case # 1R427-360



Drawing date: 8/26/13  
Drafted by: T. Grieco



# Soil Bore Installation

**RICE *Operating Company* (ROC)**  
112 West Taylor Hobbs, NM 88240  
Phone: (575) 393-9174 Fax: (575) 397-1471

# Soil Bore Installation

ROC 3 IN AC ABANDONED

Depth	Cl-	PID	SB-1		
			Lab Cl-	GRO	DRO
15	384	3.5	400	<10	<10
20	286	2.9			
25	273	2.7			
30	224	2.9			
35	228	3.5			
40	211	3.4	224	<10	<10

SOURCE X SB-1

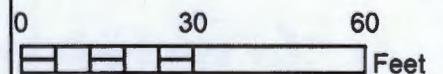
DGW = 200 ft



**EME**  
**C-10 EOL**

UL C SECTION 10  
T-21-S R-36-E  
LEA COUNTY, NM

NMOCD Case #: 1R427-360



Drawing date: 7/2/13  
Drafted by: L. Weinheimer



Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
40 ft	211	Cl- 224	3.4	Tan Sand		
		GRO <10				
		DRO <10				

June 24, 2013

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: EME C-10

Enclosed are the results of analyses for samples received by the laboratory on 06/18/13 15:50.

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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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

Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 06/18/2013  
 Reported: 06/24/2013  
 Project Name: EME C-10  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 06/18/2013  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SB #1 15' (H301406-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>400</b>	16.0	06/20/2013	ND	432	108	400	3.77		
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	06/21/2013	ND	220	110	200	1.01		
DRO >C10-C28	<10.0	10.0	06/21/2013	ND	231	116	200	0.0575		
<i>Surrogate: 1-Chlorooctane</i>		92.3 %	<i>65.2-140</i>							
<i>Surrogate: 1-Chlorooctadecane</i>		92.3 %	<i>63.6-154</i>							

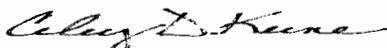
**Sample ID: SB #1 40' (H301406-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>224</b>	16.0	06/20/2013	ND	432	108	400	3.77		
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	06/21/2013	ND	220	110	200	1.01		
DRO >C10-C28	<10.0	10.0	06/21/2013	ND	231	116	200	0.0575		
<i>Surrogate: 1-Chlorooctane</i>		96.4 %	<i>65.2-140</i>							
<i>Surrogate: 1-Chlorooctadecane</i>		99.7 %	<i>63.6-154</i>							

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for 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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by 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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Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**EME C-10 EOL (1R427-360)  
Unit Letter C, Section 10, T-21-S, R-36-E**



**Installing SB-1, facing northwest 6/18/13**



**Plugging SB-1 in total with bentonite 6/18/13**



**SB-1 completed, facing northwest 6/18/13**