

**1R - 427 - 408**

**Approval CAP &  
Termination**

**DATE**

**November 11, 2014**

**From:** Lowe, Leonard, EMNRD  
**To:** ["Laura Flores"](#)  
**Cc:** ["Hack Conder"](#); ["Katie Jones"](#); [Ed Hansen \(ehansen@rice-ecs.com\)](mailto:ehansen@rice-ecs.com)  
**Subject:** Approved ROC - EME Jct. J-4 (1R427-408) CAP Report & Termination Request  
**Date:** Thursday, February 05, 2015 8:54:00 AM  
**Importance:** High

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**Termination Request Approved for the  
EME SWD System  
Jct. J - 4 (1R427-408)  
Unit Letter J Section 4, T20S, R37E, NMPM, Lea County, New Mexico**

Dear Mr. Conder:

The New Mexico Oil Conservation Division (OCD) has received RICE Environmental 's CAP Report and Termination Request to terminate the above-referenced site, dated November 11, 2014. The CAP Report and termination request 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 Environmental has met the requirements of 19.15.29 NMAC; therefore, the OCD approves the report and hereby notifies you that the remediation plan (1R-427-408) 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 505-476-3492.

**Leonard Lowe**  
Environmental Engineer  
[Environmental Bureau]  
**Oil Conservation Division**  
**Energy Minerals and Natural Resources Department**  
1220 South St. Frances  
Santa Fe, New Mexico 87004  
Office: 505-476-3492  
Fax: 505-476-3462  
E-mail: [leonard.lowe@state.nm.us](mailto:leonard.lowe@state.nm.us)  
Website: <http://www.emnrd.state.nm.us/ocd/>

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**From:** Laura Flores [mailto:lflores@rice-ecs.com]  
**Sent:** Tuesday, November 11, 2014 7:48 AM  
**To:** Lowe, Leonard, EMNRD

**Cc:** 'Hack Conder'; 'Katie Jones'

**Subject:** ROC - EME Jct. J-4 (1R427-408) CAP Report & Termination Request

Mr. Lowe,

Attached is the CAP Report and Termination Request for the EME Jct. J-4 (1R427-408) site.

If you have any questions or require any additional information, please contact Hack Conder, Katie Jones or me.

Thank you,

Laura Flores

Project Manager

Rice Environmental Consulting & Safety (RECS)

**November 11, 2014**

**Mr. Leonard Lowe**

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 (CAP) Report & Termination Request  
Rice Operating Company – EME SWD System  
EME Jct. J-4 (1R427-408): UL/J, Sec. 4, T20S, R37E**

Mr. Lowe:

RICE Operating Company (ROC) has retained Rice Environmental Consulting and Safety (RECS) to address potential environmental concerns at the above-referenced sites 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 1.5 miles southeast of Monument, New Mexico in Unit J, Section 4, T20S, R37E as shown on the Geographical Location Map (Figure 1). NM OSE records indicate that groundwater will likely be encountered at a depth of approximately 33 +/- feet.

In 2012, ROC initiated work on the former EME J-4 junction box. The site was delineated using a backhoe to form a 30 ft x 30 ft x 12 ft deep excavation and soil samples were screened at regular intervals for both hydrocarbons and chlorides. From the excavation, the wall composites and the bottom composite were taken to a commercial laboratory for analysis, resulting in elevated chloride concentrations and low Gasoline Range Organics (GRO) and Diesel Range Organics (DRO) concentrations. The excavated soil was blended on site and a total of 552 yards of the blended soil was taken to a NMOCD approved facility for disposal. The excavation was backfilled with imported caliche to 6 ft bgs. At 6 ft bgs, a 20-mil reinforced poly liner was installed and properly seated in the excavation. The excavation was backfilled with clean, imported top soil to the ground surface and contoured to the surrounding location. On October 24<sup>th</sup>, 2012, the site was seeded with a blend of native vegetation. NMOCD was notified of potential groundwater impact on March 4<sup>th</sup>, 2013 and a junction box disclosure report was submitted to NMOCD with all the 2012 junction box closures and disclosures.

As part of the Investigation and Characterization Plan (ICP) submitted to NMOCD on October 10<sup>th</sup>, 2013 and approved on October 28<sup>th</sup>, 2013, five soil bores were installed at the site on February 3<sup>rd</sup>, 2014. As the bores were advanced, 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. Laboratory analysis of the soil bore installation resulted in chloride concentrations that decreased with depth. Chloride concentrations in SB-1 decreased from 768 mg/kg at 18 ft to 335 mg/kg at 27 ft. Concentrations decreased in SB-2 from 976 mg/kg at 6 ft to 32 mg/kg at 24 ft. SB-3 decreased from 768 mg/kg at 3 ft to 48 mg/kg at 21 ft, and SB-4 decreased from 1,150 mg/kg at 3 ft to 176 mg/kg at 12 ft bgs. Concentrations in SB-5 decreased from 1,280 mg/kg at 3 ft to 464 mg/kg at 27 ft. GRO and DRO concentrations were at or near non-detect in all bores. The bore holes were plugged in total with bentonite to the ground surface.

On June 12<sup>th</sup>, 2014, ROC submitted an Investigation and Characterization Plan (ICP) Report and Corrective Action Plan (CAP) to NMOCD, which was approved on July 7<sup>th</sup>, 2014. To determine if the residual chlorides in the vadose zone pose a threat to groundwater quality, RECS ran the U.S. Environmental Protection Agency Exposure Assessment Multimedia Model (MULTIMED Version 1.5, 2005). The model output concluded that with the installation of a 63 ft x 60 ft liner, the peak concentration of chlorides in groundwater contributed by the vadose zone soils would be approximately 77.65 mg/L in 68.5 years. Therefore, the report recommended that ROC install a 20-mil reinforced poly liner at the site with dimensions of 63 ft x 60 ft at a depth of 4-5 ft bgs. The liner will inhibit the downward migration of constituents through the vadose zone. 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 soils will be evaluated for use as backfill and any soils requiring disposal will be properly disposed of at a NMOCD approved facility. The excavation will be backfilled to ground surface and contoured to the surrounding location. The soils over and surrounding the site will then be prepared with soil amendments, as necessary, and seeded with a native vegetation mix.

### **Corrective Action Plan Report**

On July 15<sup>th</sup>, 2014, RECS personnel began excavating the site to the dimensions of 60 ft x 63 ft to a depth of 5 ft bgs. A total of 828 yards of excavated material were taken to a NMOCD approved facility for disposal. The bottom of the excavation was padded with 6 inches of imported soil and a 60 ft x 63 ft, 20-mil liner was installed and properly seated at a depth of approximately 4.5 ft bgs. The top of the liner was padded with imported top soil and the remaining excavation was backfilled with the imported soil to ground surface. The site was then contoured to the surrounding area. A total of 984 yards of clean soil were imported and a sample of this imported soil was tested for hydrocarbons using a PID and was sent to a commercial laboratory for analysis of chloride, resulting in a chloride concentration of 112 mg/kg and field PID reading of 0.3 ppm. The site was then seeded with a native seed blend and a silt net fence was placed around the site to maintain seed integrity. 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. Documentation of all site activities can be found in Appendix A.

Given that RECS has completed the CAP work and, 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 if you have any questions or wish to discuss the site.

Sincerely,

A handwritten signature in cursive script that reads "L Flores".

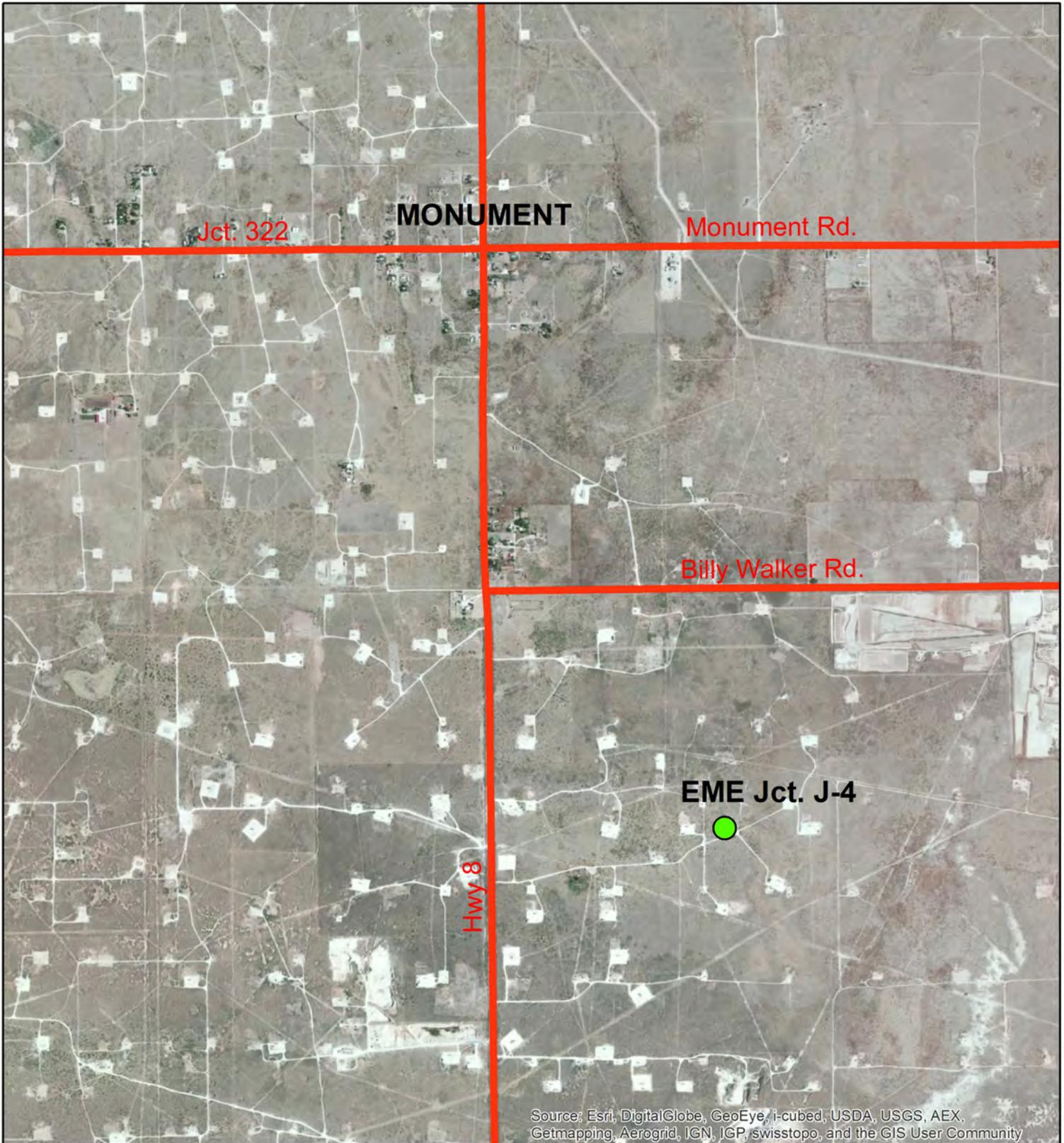
Laura Flores  
Rice Environmental Consulting & Safety (RECS)  
Project Manager

Attachments:

- Figure 1 – Geographical Location Map
- Figure 2 – Installed Liner
- Appendix A – CAP Activities

# Figures

# Geographical Location Map



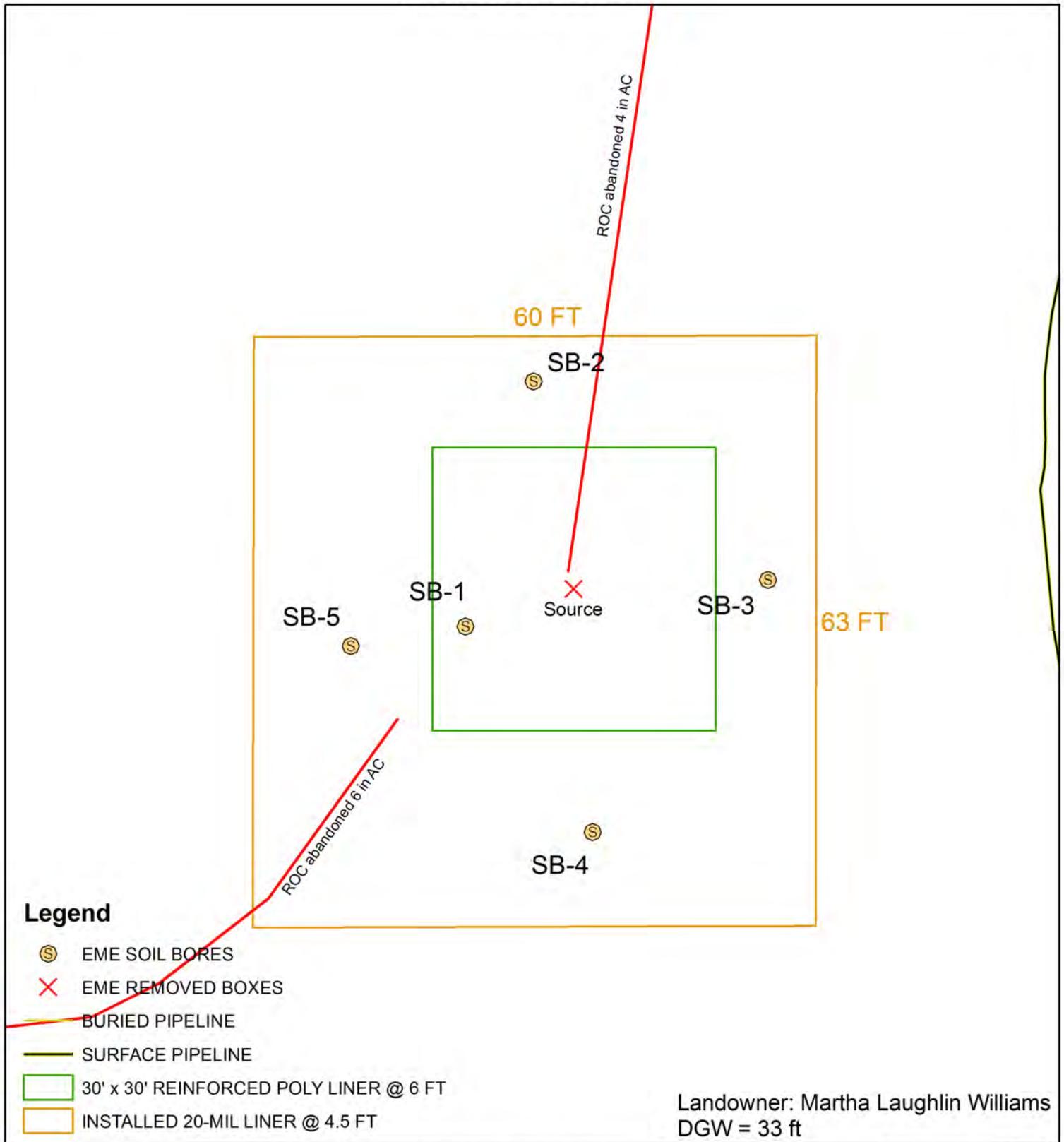
***EME Jct. J-4***  
UL J SECTION 4  
T-20-S R-37-E  
LEA COUNTY, NM  
NMOCD Case #: 1R427-408

**Figure 1**

0 0.25 0.5  
Miles

Drawing date: 1/17/13  
Drafted by: L. Weinheimer

# Installed Liner



## Legend

- Ⓢ EME SOIL BORES
- ✗ EME REMOVED BOXES
- BURIED PIPELINE
- SURFACE PIPELINE
- 30' x 30' REINFORCED POLY LINER @ 6 FT
- INSTALLED 20-MIL LINER @ 4.5 FT

Landowner: Martha Laughlin Williams  
DGW = 33 ft

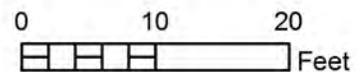


## EME Jct. J-4

UL J SECTION 4  
T-20-S R-37-E  
LEA COUNTY, NM

NMOCD Case #: 1R427-408

## Figure 2



Drawing date: 4/30/14  
Drafted by: L. Weinheimer

# Appendix A

CAP Activities

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



August 01, 2014

KYLE NORMAN

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: EME JCT. J-4

Enclosed are the results of analyses for samples received by the laboratory on 07/29/14 16:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. 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,

A handwritten signature in black ink that reads "Hope S. Moreno".

Hope S. Moreno For Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	07/29/2014	Sampling Date:	07/29/2014
Reported:	08/01/2014	Sampling Type:	Soil
Project Name:	EME JCT. J-4	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Kathy Perez
Project Location:	NONE GIVEN		

**Sample ID: IMPORTED TOP SOIL (H402328-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>112</b>	16.0	08/01/2014	ND	400	100	400	0.00	

Cardinal Laboratories

\*=Accredited Analyte

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Hope S. Moreno For 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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Hope S. Moreno For Celey D. Keene, Lab Director/Quality Manager





**EME Jct. J-4 (1R427-408)**  
**Unit Letter J, Section 4, T20S, R37E**



Site prior to excavation,  
facing northwest 7/15/2014



Excavating the site,  
Facing north 7/15/2014



Exporting the spoil pile,  
Facing west 7/16/2014



60'x63' final excavation,  
facing northwest 7/18/2014



Importing top soil,  
facing west 7/29/2014



Padded with 6' of top soil,  
facing southeast 7/30/2014



20-mil poly liner installed at 4.5 ft bgs,  
facing southwest 7/30/2014



Padding above the liner,  
facing east 7/30/2014



Backfilling the excavation,  
facing southeast 8/5/2014



Seeding location,  
facing northwest 8/8/2014



Spreading amendments,  
facing west 8/8/2014



Site complete,  
facing northeast 8/8/2014



PO Box 2498  
 Hobbs, NM 88241  
 Phone: (575) 393-2967  
 Fax: (575) 393-0293

### VEGETATION FORM

Site name: ROC EME J-4						
U/L J	Section 4	Township 20S	Range 37E	County LEA	Latitude 32.599315	Longitude -103.253271
Contact Name: Hack Conder						
Email: <a href="mailto:hconder@rice-ecs.com">hconder@rice-ecs.com</a>						
Site size: 60'x63' square feet: 3,780						

#### 2. Soils

*\*Do not rip caliche subsoils; caliche rocks brought to the surface by ripping shall be removed.*

Salvaged from site	<input type="checkbox"/>	Bioremediated	<input type="checkbox"/>	Imported	<input type="checkbox"/>	Blended	<input checked="" type="checkbox"/>	Depth (in)	
Texture:	Sandy		Describe soil & subsoil:		Top Soil on Top and Caliche Below				
Soil prep methods:	Rip	<input type="checkbox"/>	Depth (in)	<input type="checkbox"/>	Disc	<input checked="" type="checkbox"/>	Depth (in)	3"	Rollerpack
Date completed:	8/6/2014								

#### 3. Bioremediation

Fertilizer	<input type="checkbox"/>	Hay	<input type="checkbox"/>	Other	<input checked="" type="checkbox"/>
Type:				Describe:	18 bags of special mix
Lbs/acre:					

#### 4. Seeding

*\*Attach seed bag tags to this form. Seed bag tags shall contain the site name and S-T-R.*

Custom Seed Mix	<input checked="" type="checkbox"/>	Prescribed Mix	<input type="checkbox"/>	Seed Mix Name:	5 lbs. of Lea Co. Mix & 5 lbs. warm season mix	Date:	8/8/2014
Broadcast	Push Broadcasting Seeder			Method:	With Broadcast Seeder		
Soil conditions during seed:	Dry	<input checked="" type="checkbox"/>	Damp	<input type="checkbox"/>	Wet	<input type="checkbox"/>	
Observations:	The seed and amendments were raked into the soil.						

#### 5. Certification

I hereby certify that the information in this form and attachments is true and complete to the best of my knowledge and belief.

Name:	Jonathan Flores	Title:	Environmental Tech	Date:	8/8/2014
Signature:	<i>Jonathan Flores</i>				