

1R - 427-363

**REPORTS**

**DATE:**

6-20-13

## Rice Environmental Consulting & Safety

P.O. Box 2948, Hobbs, NM 88241

Phone 575.393.2967

CERTIFIED MAIL

RETURN RECEIPT NO. 7007 2560 0003 0320 5600

**June 20<sup>th</sup>, 2013**

RECEIVED

JUN 21 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

Oil Conservation Division

1220 S. St. Francis Drive

Santa Fe, NM 87505

**RE: Termination Request**

**Rice Operating Company – EME SWD System**

**EME I-35 EOL (1R427-363): UL/P sec. 35 T19S 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 3 miles southwest of Monument, New Mexico at UL/P sec. 35 T19S R36E as shown on the Site Location Map (Figure 1). RECS conducted a groundwater study of NM OSE records and BLM well records which indicated that groundwater would likely be encountered at a depth of approximately 46 +/- feet. However, soil bore installation at the site indicates that groundwater is located at approximately 33 feet.

In 2011, ROC initiated work on the former EME I-35 EOL 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 four-wall composite, the bottom composite and the blended backfill were taken to a commercial laboratory for analysis. Laboratory analysis of the composite samples resulted in elevated chloride concentrations and low concentrations of TPH. The excavated soil was blended on site and returned to the excavation to a depth of 5 ft bgs where a 20-mil reinforced poly liner was installed and properly seated into the excavation. The excavation was then backfilled with the remainder of the blended soil to ground surface.

The area was contoured to the surrounding landscape and seeded. NMOCD was notified of potential groundwater impact on February 15<sup>th</sup>, 2012 and a junction box disclosure report was submitted to NMOCD with all the 2011 junction box closures and disclosures.

As part of the Investigation and Characterization Plan (ICP) submitted to NMOCD on May 22<sup>nd</sup>, 2012, and approved on May 30<sup>th</sup>, 2012, thirteen soil bores were installed at the site on June 12<sup>th</sup> and 13<sup>th</sup>, 2012 and August 8<sup>th</sup> and 10<sup>th</sup>, 2012. While the bores were advanced, samples were taken at regular intervals for chloride and hydrocarbon field testing. Representative samples for each bore were taken to a commercial laboratory for confirmation of field numbers. Chloride concentrations decreased laterally with the edges being defined by SB-7 to the west, SB-13 to the south, SB-5 to the east, and SB-8 to the north. Chloride concentrations in SB-7 decreased from 1,220 mg/kg at 10 ft to 224 mg/kg at 25 ft. Chloride concentrations in SB-13 were low throughout, all less than 144 mg/kg. Chloride concentrations in SB-5, resulted in 336 mg/kg at 5 ft and 352 mg/kg at 10 ft, and SB-8 resulted in 416 mg/kg at 10 ft and 800 mg/kg at 20 ft. SB-10 was drilled near the Climax Chemical fence line and is representative of background soil concentrations.

An ICP Report and Corrective Action Plan (CAP) was submitted to NMOCD on August 28<sup>th</sup>, 2012. As a part of this plan, ROC proposed to install a 105 ft x 60 ft liner at approximately 4-4.5 ft bgs and to remove 1,739 kg of chloride impacted groundwater from the existing groundwater recovery system located at EME K-6. An addendum to the CAP was submitted September 13<sup>th</sup>, 2012, which stated that groundwater recovery would occur from both the EME K-6 and the EME L-6. NMOCD approved the ICP Report and CAP with Addendum on September 13<sup>th</sup>, 2012.

According to the NMOCD approved CAP, RECS personnel were on site to begin excavating for liner installation on January 22<sup>nd</sup>, 2013. The site was excavated to dimensions of 105 ft x 60 ft x 4.5 ft bgs. The excavation was padded with 6 inches of blow sand, and the 20-mil, reinforced liner was properly seated into the excavation. The liner was then padded with an additional 6 inches of blow sand. The site was then backfilled with stockpiled soil from the excavation. Top soil was imported onto the site to bring the excavation to the surface and contour it to the surrounding location. Silt net fencing was installed around the excavated area. Soil amendments were added to the top soil and the site was seeded with a blend of native vegetation. Vegetation above the liner will 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.

An Excavation Summary and Initial CAP Report detailing the excavation and liner installation and requesting soil closure was submitted to NMOCD on March 12<sup>th</sup>, 2013. NMOCD approved the request for soil closure on March 20<sup>th</sup>, 2013.

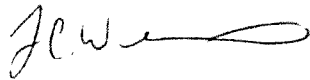
On September 27<sup>th</sup>, 2012, groundwater removal for the site began at EME K-6. Groundwater recovery did not start at EME L-6 due to technical difficulties. The K-6 site was shut down October 25<sup>th</sup>, 2012 for the winter season and began pumping again on April 16<sup>th</sup>, 2013. Pumping began at EME L-6 on April 22<sup>nd</sup>, 2013. The EME K-6 and L-

6 sites continued pumping until May 24<sup>th</sup>, 2013. During that time, the EME K-6 site extracted 1,058 barrels of groundwater at a chloride concentration of 12,300 mg/L for a total of 2,069 kg of chlorides removed from the site. The EME L-6 extracted 420 barrels of groundwater at a chloride concentration of 13,500 mg/L for a total of 901 kg of chlorides removed from the site. Together the two sites extracted a total of 2,970 kg of chlorides from the groundwater (Appendix A).

ROC extracted the requisite 1,739 kg of chlorides from the groundwater as approved by NMOCD in the ICP Report and CAP. Given that the site has already received soil closure, ROC respectfully requests 'remediation termination' of the regulatory file.

RECS 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,



Lara Weinheimer  
Project Scientist  
RECS  
(575) 441-0431

Attachments:

Figure 1 – Site Location Map  
Appendix A – Groundwater Withdrawal Documentation

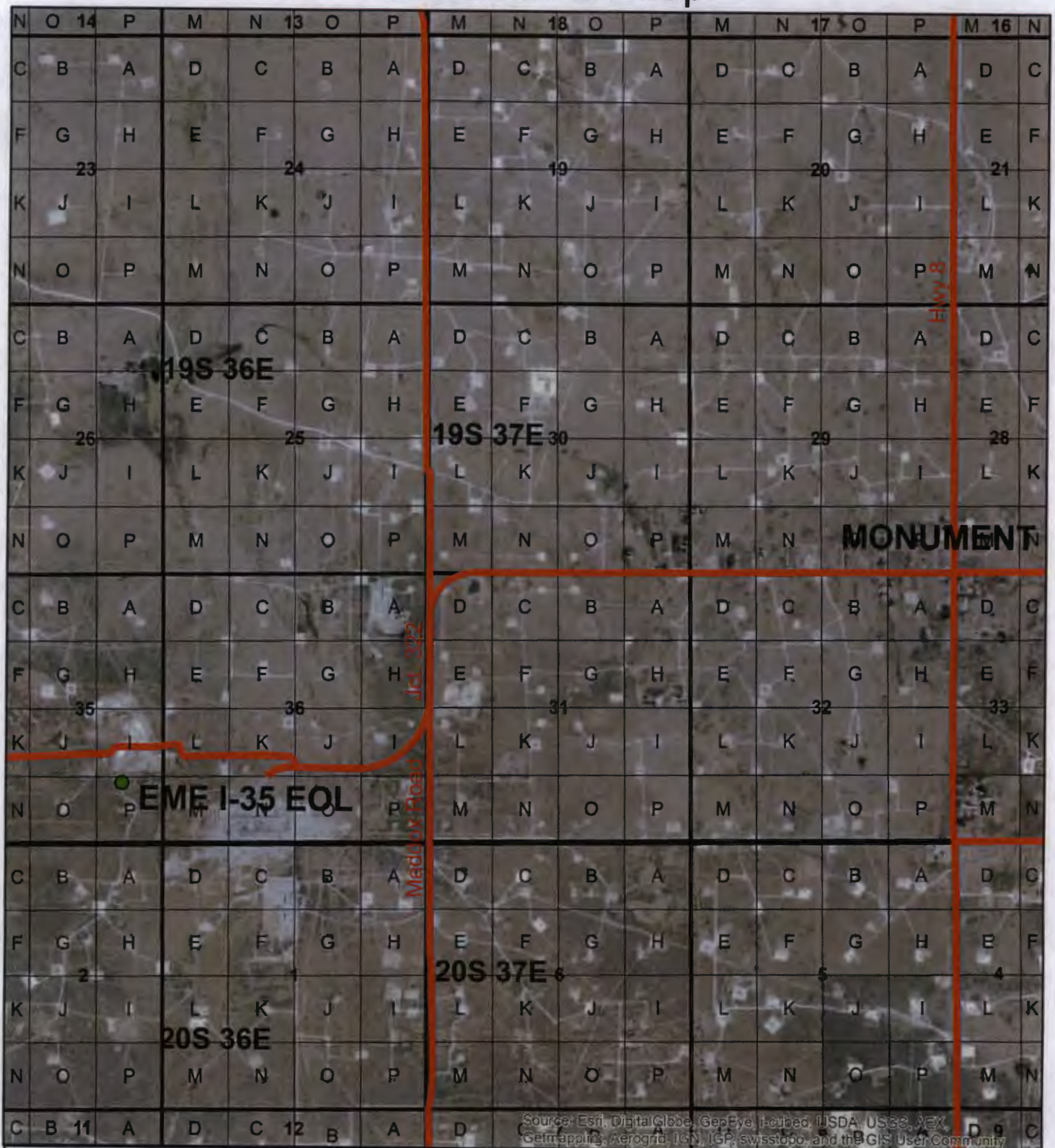
RECEIVED OGD  
2013 JUN 24 P 2:51



# Figures

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

# Site Location Map



## EME I-35 EOL

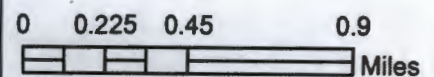
Legals: UL/P sec. 35

T-19-S R-36-E

LEA COUNTY, NM

NMOCD CASE #: 1R427-363

## Figure 1



Drawing date: 5-3-12  
Drafted by: L. Weinheimer



# Appendix A

## Groundwater Withdrawal Documentation

**RICE Environmental Consulting and Safety (RECS)**

P.O. Box 2948 Hobbs, NM 88241

Phone 575.393.2967

**Record of Groundwater Withdrawal from EME K-6 Recovery System****Site Name: EME I-35 EOL**

9/27/2012	started pumping		
9/28/2012	130		
10/5/2012	130		
10/8/2012	10		
10/11/2012	20		
10/19/2012	90		
10/25/2012	50		
Total for September and October		430 bbls	
		18,060 gals	
2/5/2013		RW-1	9,500 mg/L
4/16/2013	180		
4/19/2013	60		
4/29/2013	130		
Total for April		370 bbls	
		15,540 gals	
5/6/2013	60		
5/13/2013	70		
5/14/2013		RW-1	12,300 mg/L
5/24/2013	128		
Total for May		258 bbls	
		10,836 gals	
Total for Project		1,058 bbls	Cl- Removed 2,068.97 kg
		44,436 gals	



# Record of Groundwater Withdrawal from EME L-6 Recovery System

Site Name: EME I-35 EOL

4/22/2013	started pumping	MW-2R	12,800 mg/L
4/29/2013	110		
Total for April		110 bbls	
		4,620 gals	
5/6/2013	70		
5/13/2013	110		
5/14/2013		MW-2R	13,500 mg/L
5/24/2013	130		
Total for May		310 bbls	
		13,020 gals	
Total for Project		420 bbls	CI- Removed 901.46 kg
		17,640 gals	

Total Chloride Removed from EME K-6 2,068.97 kg

Total Chloride Removed from EME L-6 901.46 kg

**TOTAL CHLORIDE REMOVED 2,970.42 kg**

May 16, 2013

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

RE: EME K-6

Enclosed are the results of analyses for samples received by the laboratory on 05/14/13 15:00.

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).

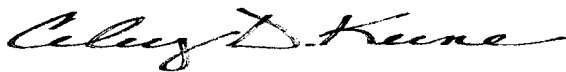
Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

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

Received: 05/14/2013  
Reported: 05/16/2013  
Project Name: EME K-6  
Project Number: NONE GIVEN  
Project Location: EME K-6

Sampling Date: 05/14/2013  
Sampling Type: Water  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Jodi Henson

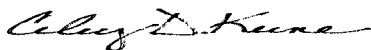
**Sample ID: RW-1 (H301158-01)****Chloride, SM4500Cl-B****mg/L****Analyzed By: DW**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride*</b>	<b>12300</b>	4.00	05/15/2013	ND	108	108	100	0.00	

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**

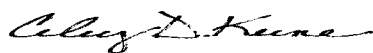
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

---

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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

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May 16, 2013

Hack Conder

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: EME L-6

Enclosed are the results of analyses for samples received by the laboratory on 05/14/13 15:00.

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Sincerely,

A handwritten signature in black ink, reading "Coley D. Keene". The signature is written in a cursive, flowing style.

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: 05/14/2013  
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Project Name: EME L-6  
Project Number: NONE GIVEN  
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Sampling Condition: \*\* (See Notes)  
Sample Received By: Jodi Henson

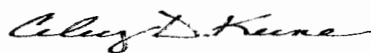
**Sample ID: MW - 2R (H301159-01)****Chloride, SM4500CI-B****mg/L****Analyzed By: DW**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	13500	4.00	05/15/2013	ND	108	108	100	0.00	

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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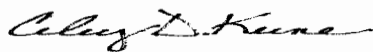
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Celey D. Keene, Lab Director/Quality Manager



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[illegible]

\* Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2436

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