

January 15, 2015

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. F-32 (1R427-407): UL/F, Sec. 32, T19S, 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 0.5 miles southwest of Monument, New Mexico in Unit F, Section 32, T19S, 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 27 +/- feet.

In 2012, ROC initiated work on the former F-32 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, a four-wall composite and a bottom composite were taken to a commercial laboratory for analysis. The laboratory tests of the four-wall composite showed a chloride reading of 2,040 mg/kg and a gasoline range organics (GRO) reading and a diesel range organics (DRO) reading of non-detect. The bottom composite showed a chloride laboratory reading of 896 mg/kg and a GRO and a DRO reading of non-detect. The excavated soil was blended on site and a composite sample was taken to a commercial laboratory for analysis. The laboratory chloride result for the blended backfill was 656 mg/kg with a GRO reading of non-detect and a DRO reading of 121 mg/kg. A total of 584 yards of blended soil was taken to a NMOCD approved facility for disposal. The site was backfilled with the blended backfill to 6 ft bgs, where a 20 mil reinforced poly liner was installed and properly seated. The remainder of the excavation was backfilled with clean, imported soil. A sample of this imported soil was taken to a commercial laboratory for analysis and returned a chloride, GRO and DRO result of non-detect. The area was contoured to the surrounding

landscape, and the site was seeded with a blend of native vegetation. NMOCD was notified of potential groundwater impact on March 4th, 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 10th, 2013 and approved on October 24th, 2013, three soil bores were installed at the site on April 17th, 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 SB-1 returned chloride concentrations of 704 mg/kg at 14 ft bgs and 320 mg/kg at 22 ft bgs. SB-2 returned chloride concentrations of 1,180 mg/kg at 20 ft bgs and 208 mg/kg at 26 ft bgs. SB-3 returned chloride concentrations of 1,140 mg/kg at 18 ft bgs and 160 mg/kg at 24 ft bgs. GRO and DRO analysis returned values of non-detect in all bores at all depths except at SB-2, where the DRO reading was 25.7 mg/kg at 26 ft bgs. The bore holes were plugged in total with bentonite to the ground surface. The lateral extent of the site was defined to the west with the 15 ft west vertical, in which chloride concentrations were low and decreased to 362 mg/kg at 12 ft bgs.

To determine if the residual chlorides in the vadose zone pose a threat to groundwater quality, ROC ran the U.S. Environmental Protection Agency Exposure Assessment Multimedia Model (MULTIMED Version 1.5, 2005). With the impact area of 35 ft x 35 ft, the model output concluded that the peak concentration of chlorides in groundwater contributed by the vadose zone soils would be approximately 132.5 mg/L in 15 years. Since the estimated increase in chloride concentrations in groundwater from residual chloride migration is below the WQCC standard of 250 mg/L, no action is warranted for the groundwater at this site.

On June 26th, 2014, ROC submitted a CAP to NMOCD, which was approved on September 18th, 2014. Based on the multimted analysis, the report recommended that ROC complete surface restoration by scraping the site to an approximate depth of 6 inches. Clean, imported soil would be used as backfill over the site. The backfill material would have a laboratory chloride reading no greater than 500 mg/kg, and a field PID reading below 100 ppm. The area would be contoured to the surrounding location and the site would be seeded with a blend of native vegetation.

Corrective Action Plan Report

On October 29th, 2014, RECS personnel began scraping the site to a depth of 6 inches. An area of approximately 6,407 ft² was scraped, and a total of 128 yards of excavated material were taken to a NMOCD approved facility for disposal. A total of 274 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. The sample resulted in a chloride concentration below detectable limit and field PID reading of 0.1 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. Documentation of all site activities can be found in Appendix A.

Given that RECS has completed the CAP work, 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, appearing to read "L. Flores".

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

Attachments:

Figure 1 – Geographical Location Map
Appendix A – CAP Activities

Figures

Geographical Location Map



Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



EME Jct. F-32

Legals: UL/F sec. 32
T-19-S R-37-E
LEA COUNTY, NM

NMOCD Case #: 1R427-407

Figure 1



0 0.1 0.2
Miles

Drawing date: 8/9/13
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



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

November 07, 2014

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: EME JCT F-32

Enclosed are the results of analyses for samples received by the laboratory on 11/05/14 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.

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 "Celey D. Keene". The signature is written in a cursive, flowing style.

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: 11/05/2014
Reported: 11/07/2014
Project Name: EME JCT F-32
Project Number: NONE GIVEN
Project Location: 19-S/37-E

Sampling Date: 11/05/2014
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: IMPORTED TOP SOIL (H403415-01)**Chloride, SM4500Cl-B****mg/kg****Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	11/06/2014	ND	400	100	400	0.00	

Cardinal Laboratories

*=Accredited Analyte

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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

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

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† Cardinal cannot accept verbal changes. Please fax written changes to 505-398-2476

#54

RICE ENVIRONMENTAL CONSULTING & SAFETY

419 West Cain Hobbs, NM 88240
PHONE: (575) 393-2967 FAX: (575) 393-0293
PID METER CALIBRATION & FIELD REPORT FORM

CK.	<input type="checkbox"/>	MODEL: PGM 7300	SERIAL NO: 590-000508
MODEL	<input type="checkbox"/>	MODEL: PGM 7300	SERIAL NO: 590-000504
NO.	<input type="checkbox"/>	MODEL: PGM 7320	SERIAL NO: 592-903318
	<input checked="" type="checkbox"/>	MODEL: PGM 7300	SERIAL NO: 590-001413

GAS COMPOSITION: ISOBUTYLENE 100PPM / AIR: BALANCE

LOT NO : HAL-248-100-1	EXPIRATION DATE: 07/01/2015
METER READING ACCURACY: 100.0 ppm	

ACCURACY : +/- 2%

COMPANY
RICE Operating Company (ROC)

SITE	UNIT	SECTION	TOWN SHIP	RANGE
EME Jct. F-32	F	32	19S	37E

SAMPLE ID	PID	SAMPLE ID	PID
Imported Top Soil	0.1		

I verify that I have calibrated the above instrument in accordance to the manufacture operation manual.

SIGNATURE:



DATE: 11/5/2014

EME Jct. F-32 (1R427-407)
Unit Letter F, Section 32, T19S, R37E



Site prior,
facing southeast 10/29/2014



Breaking up the location,
facing south 10/29/2014



Exporting spoiled material,
facing west 10/29/2014



Scraping location,
facing northwest 10/29/2014



Importing topsoil,
facing west, 11/5/2014



Backfilling scrape,
facing south 11/6/2014



Spreading topsoil,
facing northwest 11/11/2013



Backfill complete,
facing southeast 11/13/2014



Spreading amendments,
facing east 11/19/2014



Discing in amendments,
facing southeast 11/19/2014



Seeding location,
facing northeast 11/19/2014



Site complete,
facing southeast 11/19/2014



PO Box 2948
Hobbs, NM 88241
Phone: (575) 393-2967

RE-VEGETATION FORM

1. General Information

Site name: EME Jct. F-32						
U/L F	Section 32	Township 19-S	Range 37-E	County Lea	Latitude N 32.619679	Longitude W103.273771
Contact Name: Kyle Norman						
Email: Knorman@rice-ecs.com						
Site size: 6,407 square feet			Map detail of site attached <input type="checkbox"/>			
Additional information:						

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 checked="" type="checkbox"/>	Blended <input type="checkbox"/>	Depth (in):
Texture: Sand		Describe soil & subsoil: Caliche with sand and topsoil on surface		
Soil prep methods: Rip <input type="checkbox"/>	Depth(in):	Disc <input checked="" type="checkbox"/>	Depth (in): 4"	Rollerpack <input type="checkbox"/>
Date completed: 11/13/2014				

3. Bioremediation

Fertilizer <input type="checkbox"/>	Hay <input type="checkbox"/>	Other <input checked="" type="checkbox"/> 14 Bags of Custom
Type:		Describe: Blend of
Lbs/acre:		amendments.

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: 7 lbs. Black Gramma and 7lbs. Winter Wheat	Seeding date: 11/19/2014
Broadcast <input checked="" type="checkbox"/>			
Method: Used the dew drop drill seeder to seed the site.			
Soil conditions during seeding: Dry <input checked="" type="checkbox"/> Damp <input type="checkbox"/> Wet <input type="checkbox"/>			
Photos attached <input type="checkbox"/>	Observations: The seed was tilled into the soil.		
Number of photos:			

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: Amber Groves	Title: Environmental Technician	Date: 11/19/2014
Signature:		