1R - 427-01

REPORTS

DATE:

8-24-12

Rice Environmental Consulting & Safety
P.O. Box 5630 Hobbs, NM 88241
Phone 575.393.4411 Fax 575.393.0293

CERTIFIED MAIL
RETURN RECEIPT NO. 7007 2560 0003 0323 8967

August 24th, 2012

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: **CAP Report and Termination Request**
Rice Operating Company – EME SWD System
EME K-35 (1R427-01): UL/K sec. 35 T20S 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 7.5 miles southwest of Monument, New Mexico at UL/K sec. 35 T20S R36E as shown on the Site Location Map (Figure 1). NM OSE records indicated that groundwater would likely be encountered at a depth of approximately 122 +/- feet. However, soil bore installation activities performed at the site showed that there was no groundwater located beneath the site.

In 2003, ROC initiated work on the former EME K-35 junction box. The site was delineated using a backhoe and soil samples were screened at regular intervals for chlorides. From the excavation, the four-wall composite, the bottom composite and the remediated soil were taken to a commercial laboratory for analysis. Laboratory tests of the four-wall composite showed a chloride reading of 922 mg/kg and gasoline range organics (GRO), diesel range organics (DRO) and BTEX readings of non-detect. The bottom composite showed a chloride laboratory reading of 939 mg/kg and GRO, DRO and BTEX readings of non-detect. Laboratory analysis of the remediated soil showed a chloride reading of 549 mg/kg and GRO, DRO and BTEX readings of non-detect. At 12-11 ft bgs, a 1 ft clay layer was installed to inhibit chloride migration through the vadose zone. The approximate dimensions of the clay layer are 21 ft x 27 ft. The area was backfilled, contoured to the surrounding landscape and a new water tight junction box was placed at the site. NMOCD was notified of potential groundwater impact on March

4th, 2003 and a junction box disclosure report was submitted to NMOCD with all the 2003 junction box closures and disclosures.

As part of the Investigation and Characterization Plan (ICP) approved by NMOCD on November 17th, 2011, one soil bore was advanced through the former junction box site to a depth of 140 ft bgs on December 12th, 2011. RECS personnel field tested the soil for chlorides and screened in the field with a photo-ionization detector for hydrocarbons. Representative samples from the bore were taken to a commercial laboratory for confirmation of chloride and hydrocarbon field numbers. Laboratory chloride numbers peaked at 95 ft bgs with a reading of 1,070 mg/kg and declined to 256 mg/kg at 120 ft bgs. GRO and DRO laboratory readings were non-detect throughout the bore.

Red bed clay was encountered at 85 ft bgs, which indicated the bottom of the aquifer. Since no groundwater was encountered, the bore was advanced to 140 ft bgs and packed open for 48 hours to allow any possible groundwater to accumulate. On December 14th, 2011, Harrison & Cooper Drilling, Inc. were on site to gauge the bore for groundwater accumulation. They found no water in the bore.

ROC submitted and ICP Report and Corrective Action Plan (CAP) to NMOCD on January 13th, 2012, which was approved on January 31st, 2012. In the report, RECS recommended that ROC scrape the site to approximately 6 inches to 1 foot to remove all rock and break up the soil for seeding. The site would then be backfilled with clean soil to bring it back up to the surrounding area. Soil amendments would be added as necessary to promote vegetative growth and the site would be seeded with native vegetation. Vegetation acts as an evapo-transpiration barrier which will inhibit the downward movement of chlorides and hydrocarbons. Plants capture water through their roots and so reduce the amount of water infiltrating below the root zone.

Corrective Action Plan Report

On July 10th, 2012, RECS personnel were on site to begin scraping the site six inches deep to remove all rock and break up the soil for seeding. A total of 180 yards of scraped soil was disposed of at a NMOCD approved facility. A total of 132 yards of clean soil was imported to the site to serve as backfill material. The site was backfilled, contoured to the surrounding location, and seeded with a blend of native vegetation (Appendix A).

Since there is no groundwater at the site, the former junction box will in no way contribute to the degradation of groundwater. The site has an existing clay barrier with approximate dimensions of 21 ft x 27 ft installed from 12-11 ft bgs, which will impede migration of residual chlorides and hydrocarbons. The site has been scraped and seeded and is expected to return to normal vegetative capacity. Since ROC has completed the corrective actions as approved by NMOCD in the CAP, ROC requests 'remediation termination' status 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

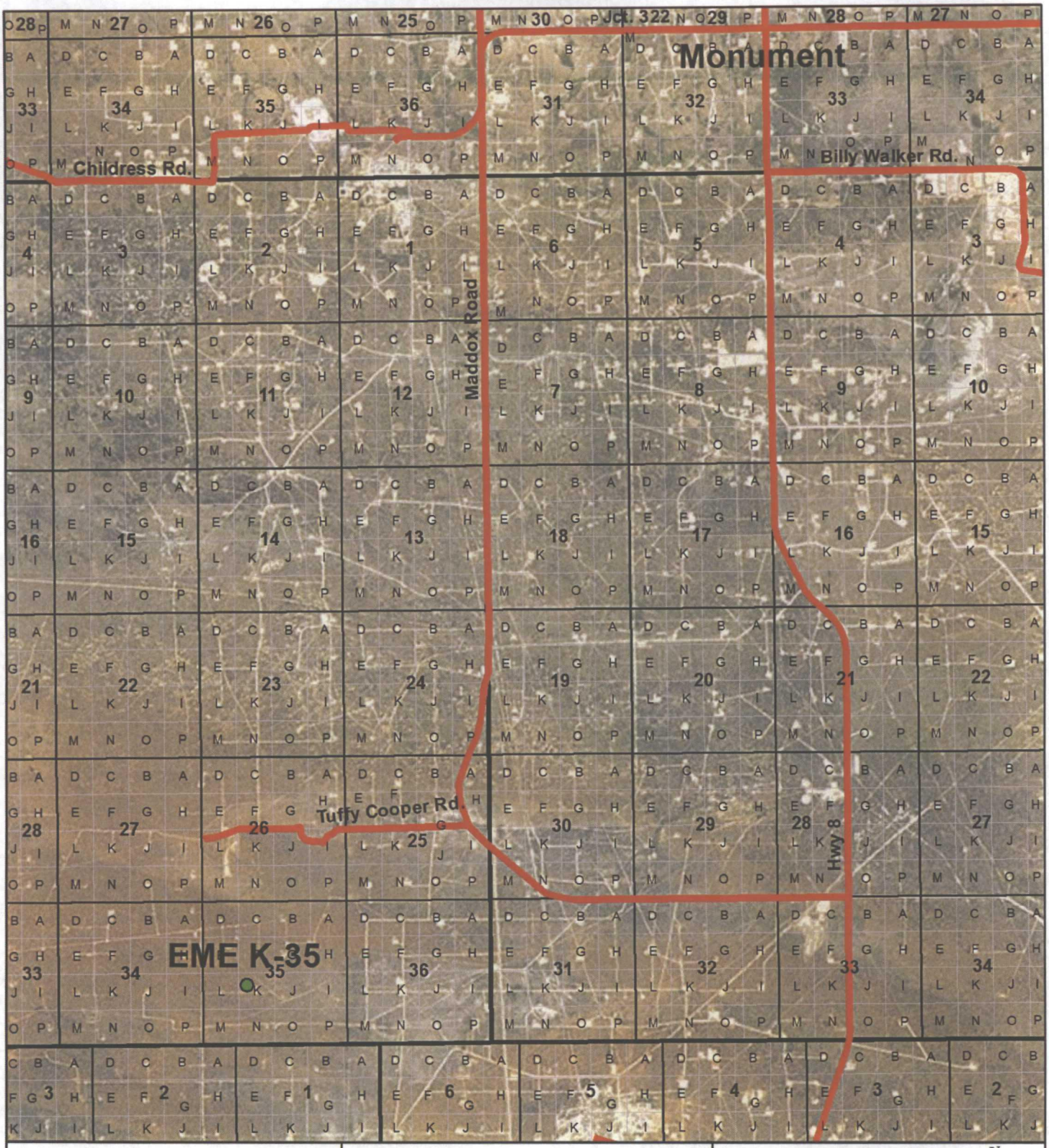
Attachments:

Figure 1 – Site Location Map
Appendix A – CAP Activities Documentation

Figures

RICE Environmental Consulting and Safety (RECS)
P.O. Box 5630 Hobbs, NM 88241
Phone 575.393.4411 Fax 575.393.0293

Site Location



RICE ENVIRONMENTAL CONSULTING & SAFETY, LLC

EME K-35

LEGALS: UL/K sec. 35
T-20-S R-36-E

NMOCD Case #: 1R427-01

Figure 1

N
W E
S

0 0.3 0.6 1.2
Miles

Drawing date: 10/31/11
Drafted by: L. Weinheimer

Appendix A

CAP Activities Documentation

RICE Environmental Consulting and Safety (RECS)
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PO Box 5630
Hobbs, NM 88241
Phone: (575) 393-4411
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REVEGETATION FORM

1. General Information

Site name	EME K-35					
U/L	Section	Township	Range	County	Latitude	Longitude
K	35	20S	36E	Lea	32°31.691'	103°19.704'
Contact Name:	Bruce Baker					
Email:	bbaker@rice-ecs.com					
Site size: 5,400 square feet			Map detail of site attached ☐			
Additional information:						

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

Salvaged from site ☒	Bioremediated ☐	Imported ☒	Blended ☒	Depth (in):
Texture: **Sandy**	Describe soil & subsoil:	**Sandy surface with caliche below**		
Soil prep methods:	Rip ☐ Depth(in):	Disc ☒ Depth (in): **6**	Rollerpack ☐	
Date completed: **8/17/2012**				

3. Bioremediation

Fertilizer ☐	Hay ☐	Other ☐
Type:		Describe:
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 ☒	Prescribed mix ☐	Seed mix name: **2.5 lbs. Blue Grama and 2.5 lbs. Side Oats Grama**	Seeding date: **8/17/2012**
Broadcast ☒ Method: Mechanical spreader/tiller			
Soil conditions during seeding: Dry ☒ Damp ☐ Wet ☐			
Photos attached ☐ Number of photos:	Observations: **Seed was tilled into 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: **Eduardo Garcia**	Title: **Environmental Tech**	Date: **8/17/2012**
Signature: Eduardo Garcia		

EME K-35 (1R427-01)

Unit K, Section 35, T20S, R36E

Site prior to scraping, facing east 6/28/2012

Scraping site, facing east 7/11/2012

Scraping site, facing east 7/12/2012

Exporting soil, facing west 8/17/2012

Seeding and tilling, facing west 8/17/2012

Site complete, facing west 8/17/2012