

1R - 2552

**REPORTS**

**DATE:**

8-6-12

# RICE *Operating Company*

112 West Taylor · Hobbs, New Mexico 88240  
Phone: (575) 393-9174 · Fax: (575) 397-1471

RECEIVED OCD

2012 AUG 10 P 12:43

CERTIFIED MAIL

RETURN RECEIPT NO. 7007 2560 0000 4569 9552

August 6<sup>th</sup>, 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: Corrective Action to Groundwater Report and Termination Request  
Rice Operating Company – EME SWD System  
EME K-6 leak (1RP-2552): UL/K sec. 6 T20S R37E**

Mr. Hansen:

RICE Operating Company (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.

The site is located approximately 2 miles southwest of Monument, New Mexico at UL/K sec. 6 T20S R37E as shown on the Site Location Map (Figure 1). Groundwater in the area is located at a depth of approximately 34 ft bgs.

## **Background and Previous Work**

On June 7<sup>th</sup>, 2010, ROC discovered a leak from the EME K-6 junction box. The leaking valve connection was repaired and NMOCD and BLM were notified of the leak by ROC (Appendix A). The standing fluid was removed from the site by vacuum truck, and the wet soil was scraped and properly disposed of at an NMOCD approved facility. On July 1<sup>st</sup>, 2010 and August 18<sup>th</sup> – 20<sup>th</sup>, 2010, fourteen soil bores were installed at the site. The soil bores were installed by GeoProbe and ROC personnel field tested the soil at regular intervals. Representative samples from each bore were taken to a commercial laboratory for analysis to confirm field data numbers. Chloride concentrations were elevated in each bore drilled within the leak area but decreased with depth to concentrations similar to background. Background concentrations were determined by advancing three bores outside the leak area.

ROC received verbal approval from the NMOCD – District 1 office and notified BLM of the path forward via email on November 29<sup>th</sup>, 2011. BLM approved the proposed path forward on November 30<sup>th</sup>, 2010. The path forward included the installation of a 20-mil

reinforced liner and contouring the site to the surrounding area through folding over of the surrounding dunes. Starting on December 6<sup>th</sup>, 2010, the site was excavated to approximately 4.5 ft bgs to install a 20-mil reinforced liner throughout the leak area. The excavated soil (576 yards) was disposed of at an NMOCD approved facility. Approximately 216 yards of clean sand was imported to the site to lay a 6 inch pad both above and below the liner to prevent the liner from puncturing. Once the liner was padded, the surrounding sand dunes were scraped of their top four inches and stockpiled to use as a nutritive layer after the site was backfilled. The remainder of the sand dunes was then pushed into the excavation as backfill. An additional 156 yards of clean, imported sand was used to complete the backfill. 36 yards of clean, imported sand was mixed with soil amendments and then blended with the stockpiled nutritive layer from the sand dunes. This was spread over the site to contour it to the surrounding area, and the site was seeded with a native vegetative mix. Silt net fencing was positioned around the site to maintain seed placement.

On December 15<sup>th</sup>, 2011, ROC submitted an Update Report and Corrective Action to Groundwater to NMOCD which was approved on March 13<sup>th</sup>, 2012. As part of the report, ROC proposed to remove chloride impacted groundwater from the existing recovery system located at EME K-6. Removed groundwater would be utilized for pipeline and well maintenance. Our estimate conservatively reflected the net impact to groundwater at the site resulting from the leak. It did not take into account other sources or regional groundwater conditions that may exist up gradient from the site. The total chloride mass determined for the site was 2,406 kg and necessitated approximately 1,389 barrels removed from the aquifer to remove this mass.

### **Corrective Action to Groundwater Report**

Groundwater recovery began at the EME K-6 on April 2<sup>nd</sup>, 2012 and was completed on July 13<sup>th</sup>, 2012. During the recovery process, a total of 1,436 barrels of groundwater was extracted from the aquifer. Given that the RW-1 at EME K-6 had a chloride concentration of 11,000 mg/L (Appendix B), the 1,436 barrels equates to 2,511 kg of chlorides extracted from the aquifer.

ROC has completed the corrective actions as approved by NMOCD by removing the 2,406 kg of chlorides the site contributed to groundwater. Therefore, ROC requests 'remediation termination' status of the regulatory file. The final C-141 is located in Appendix C.

ROC appreciates the opportunity to work with you on this project. Please call me at (575) 393-9174 if you have any questions or wish to discuss the site.

Sincerely,

A handwritten signature in black ink, appearing to read "H. Conder". The signature is fluid and cursive, with a long horizontal stroke at the end.

Hack Conder  
Environmental Manager  
Rice Operating Company  
(575) 631-6432

Copy: Geoffrey Leking

Attachments:

- Figure 1 – Site Location Map
- Appendix A – Initial C-141
- Appendix B – EME K-6 RW-1 Lab
- Appendix C – Final C-141

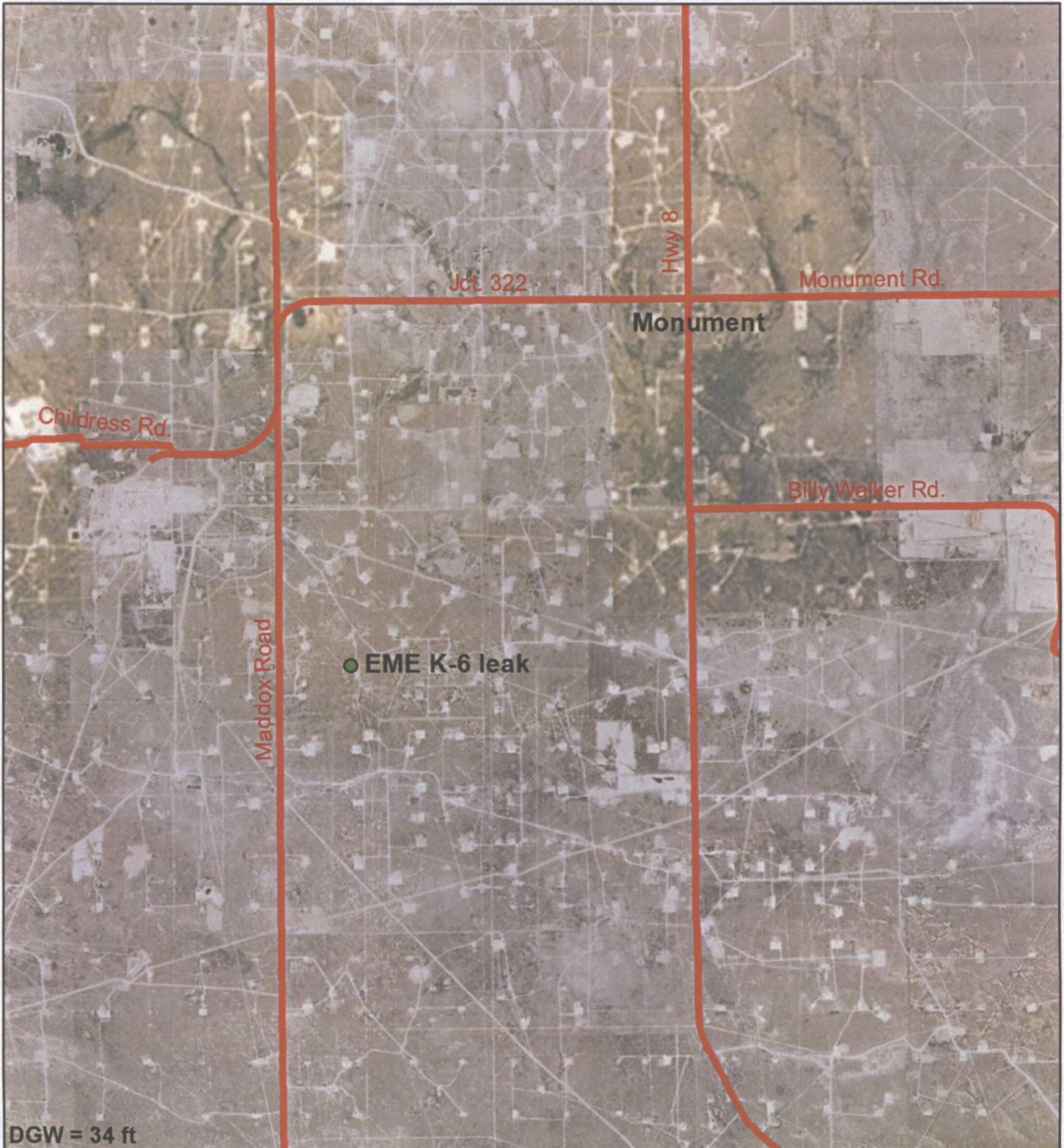


# Figures

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



# Site Location Map



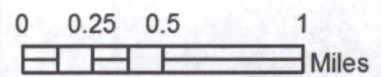
DGW = 34 ft



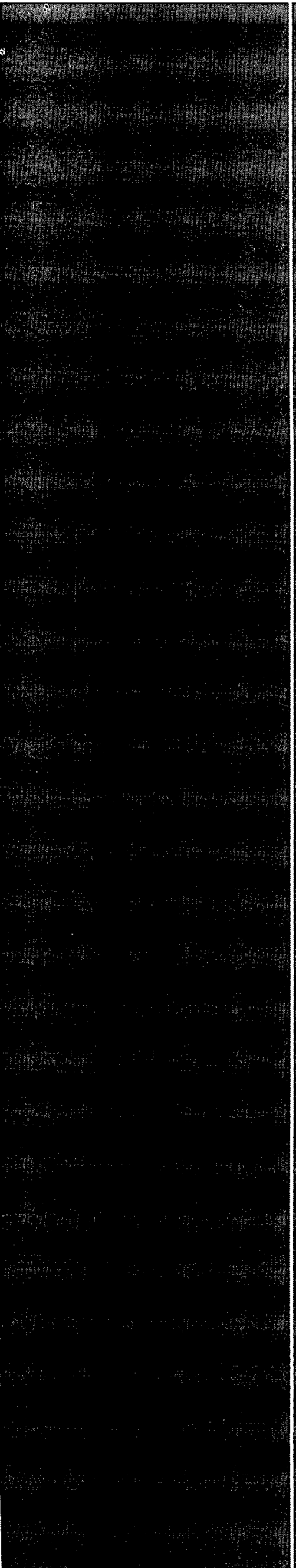
## **EME K-6 LEAK**

LEGALS: UL/K SEC 6  
T20S R37E  
NMOCD Case # 1RP-2552

### Figure 1



Drawing date: 12/13/11  
Drafted by: L. Weinheimer



# Appendix A

Initial C-141

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

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

**RECEIVED**

Form C-141  
Revised October 10, 2003

JUN 08 2010

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

**HOBBSUCD**

**Release Notification and Corrective Action**

**OPERATOR**

Initial Report  Final Report

Name of Company <b>RICE Operating Company</b>	Contact <b>Hack Conder</b>
Address <b>122 W. Taylor St., Hobbs, NM 88240</b>	Telephone No. <b>(575) 393-9174</b>
Facility Name <b>K-6</b>	Facility Type <b>Salt Water Gathering System</b>

Surface Owner: <b>BLM</b>	Mineral Owner	Lease No. API Number <u>30-025-12800</u>
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**LOCATION OF RELEASE**

Unit Letter <b>K</b>	Section <b>6</b>	Township <b>20S</b>	Range <b>37E</b>	Feet from the	North/South Line	Feet from the	East/West Line	County <b>LEA</b>
-------------------------	---------------------	------------------------	---------------------	---------------	------------------	---------------	----------------	----------------------

Latitude: 32°35'939" Longitude: 103°17'585" (NAD 83)

WTR 30'

**NATURE OF RELEASE**

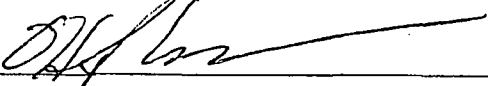
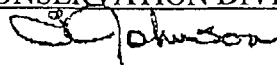
Type of Release: <b>PRODUCED WATER</b>	Volume of Release: <b>700</b>	Volume Recovered: <b>600</b>
Source of Release: <b>Junction Box</b>	Date and Hour of Occurrence <b>6/7/2010</b>	Date and Hour of Discovery <b>6/7/2010 8:55 AM</b>
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? <b>Message left with Larry Johnson, NMOCD</b>	
By Whom? <b>Hack Conder</b>	Date and Hour <b>6/7/2010</b>	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\*  
**A valve connection failure in the K-6 junction caused the box to fill and overflow. Vacuum trucks were dispatched immediately to remove and properly dispose of the released water. The connection was permanently repaired.**

Describe Area Affected and Cleanup Action Taken.\*  
**8,100 sq ft of pasture was affected. Wet soil is being scrapped and hauled to an NMOCD approved facility**

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: <b>Hack Conder</b>	 Approved by District Supervisor <b>ENVIRONMENTAL ENGINEER</b>	
Title: <b>Environmental Manager</b>	Approval Date: <b>6.8.10</b>	Expiration Date: <b>8.9.10</b>
E-mail Address: <b>hconder@riceswd.com</b>	Conditions of Approval:	
Date: <b>6/7/2010</b> Phone: <b>(575) 393-9174</b>	Attached <input type="checkbox"/> <b>SUBMIT FINAL C.141 w/Docs By IRP. 10.6.2552</b>	

\* Attach Additional Sheets If Necessary

RCWJ 1346  
PLWS 1559





# Appendix B

EME K-6 RW-1 Lab

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



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

---

June 26, 2012

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 06/21/12 15:45.

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,

A handwritten signature in cursive script that reads "Celey D. Keene".

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: 06/21/2012  
 Reported: 06/26/2012  
 Project Name: EME K-6  
 Project Number: NNONE GIVEN  
 Project Location: EME K-6

 Sampling Date: 06/21/2012  
 Sampling Type: Water  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

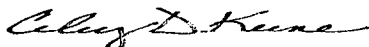
**Sample ID: RW-1 (H201412-01)**

Chloride, SM4500Cl-B	mg/L	Analyzed By: AP							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	11000	4.00	06/26/2012	ND	100	100	100	11.3	

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**

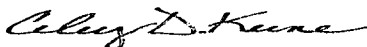
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C  
Samples reported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

---

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



### CARDINAL LABORATORIES

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

### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <u>Rice</u>				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>																					
Project Manager: <u>Hack Conder</u>				P.O. #:				Chlorides TPH 8015 M BTEX Texas TPH Complete Cations/Anions TDS																					
Address:				Company:																									
City: <u>Hobbs</u>		State: <u>NM</u>		Zip: <u>88240</u>		Attn:																							
Phone #:		Fax #:		Address:																									
Project #:		Project Owner:		City:																									
Project Name:				State:		Zip:																							
Project Location: <u>EME K-6</u>				Phone #:																									
Sampler Name: <u>Kylé Norman</u>				Fax #:																									
FOR LAB USE ONLY																													
Lab I.D. <u>H201412</u>		Sample I.D. <u>HW-1</u>		(GRAB OR) (C)OMP.	# CONTAINERS	MATRIX												PRESERV.	SAMPLING										
						GROUNDWATER					DATE	TIME																	
						WASTEWATER					<u>6-21-12</u>	<u>10:00AM</u>																	
						SOIL																							
						OIL																							
						SLUDGE																							
						OTHER:																							
						ACID/BASE																							
						ICE / COOL																							
						OTHER:																							

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 the client for the 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 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 services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: <u>[Signature]</u>		Date: <u>6-21-12</u>	Received By: <u>[Signature]</u>	Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Phone #:
		Time: <u>3:45</u>		Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Fax #:
Relinquished By:		Date:	Received By:	REMARKS:	
		Time:		email results: zconder@rice-ecs.com	
Delivered By: (Circle One)		Sample Condition Cool Intact		Knorman@rice-ecs.com; lpena@riceswd.com	
Sampler - UPS - Bus - Other:		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Kjones@riceswd.com; Bbaker@rice-ecs.com;	
		CHECKED BY: <u>[Signature]</u>		hconder@rice-ecs.com; Lweinheimer@rice-ecs.com	

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476  
#26



# Appendix C

Final C-141

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



District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources

Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-141  
Revised October 10, 2003

Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

**Release Notification and Corrective Action**

**OPERATOR**

Initial Report  Final Report

Name of Company RICE Operating Company	Contact Hack Conder
Address 122 W. Taylor St., Hobbs, NM 88240	Telephone No. (575) 393-9174
Facility Name K-6	Facility Type Salt Water Gathering System
Surface Owner BLM	Mineral Owner
Lease No. API: 30-025-12800	

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
K	6	20S	37E					Lea

Latitude 32°35'939" Longitude 103°17'585"

**NATURE OF RELEASE**

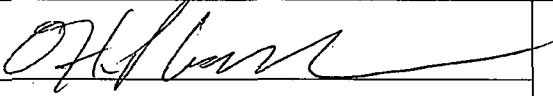
Type of Release Produced Water	Volume of Release 700 bbls	Volume Recovered 600 bbls
Source of Release Junction Box	Date and Hour of Occurrence 6/7/2012	Date and Hour of Discovery 6/7/2010 8:55 AM
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Message left with Larry Johnson, NMOCD	
By Whom? Hack Conder	Date and Hour 6/7/2010	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	
If a Watercourse was Impacted, Describe Fully.*		

**Describe Cause of Problem and Remedial Action Taken.\***

A valve connection failure in the K-6 junction caused the box to fill and overflow. Vacuum trucks were dispatched immediately to remove and properly dispose of the released water. The connection was permanently repaired. Approximately 8,100 sq ft of pasture was affected. The wet soil was scraped and disposed of at a NMOCD approved facility.

**Describe Area Affected and Cleanup Action Taken.\*** On July 1<sup>st</sup>, 2010 and August 18<sup>th</sup> - 20<sup>th</sup>, 2010, fourteen soil bores were installed at the site. Representative samples from each bore were taken to a commercial laboratory for analysis to confirm field data numbers. ROC received verbal approval from the NMOCD - District 1 office and notified BLM of the path forward via email on November 29<sup>th</sup>, 2011. BLM approved the proposed path forward on November 30<sup>th</sup>, 2010. Starting on December 6<sup>th</sup>, 2010, the site was excavated to approximately 4.5 ft bgs and a 20-mil reinforced liner was installed throughout the leak area. ROC proposed to remove 2,406 kg of chloride impacted groundwater from the existing recovery system located at EME K-6. Groundwater recovery began at the EME K-6 on April 2<sup>nd</sup>, 2012 and was completed on July 13<sup>th</sup>, 2012. During the recovery process, a total of 1,436 barrels of groundwater was extracted from the aquifer. Given that the RW-1 at EME K-6 had a chloride concentration of 11,000 mg/L, the 1,436 barrels equates to 2,511 kg of chlorides extracted from the aquifer.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Hack Conder	Approved by District Supervisor:	
Title: Environmental Manager	Approval Date:	Expiration Date:
E-mail Address: hconder@riceswd.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: Phone: (575) 393-9174		

\* Attach Additional Sheets If Necessary

**Hansen, Edward J., EMNRD**

---

**From:** Laura Pena <lpena@riceswd.com>  
**Sent:** Wednesday, August 15, 2012 1:28 PM  
**To:** Hansen, Edward J., EMNRD  
**Cc:** Hack Conder; Katie Jones  
**Subject:** ROC - EME K-6 leak (1RP-2552) Photo Documentation  
**Attachments:** EME K-6 leak Current Photos.pdf; EME K-6 leak Excavation Photo Page.pdf

Mr. Hansen,

Attached is the photo documentation for the EME K-6 leak (1RP-2552) site as requested.

Let Hack Conder, Katie Jones or me know if you have any questions or require any additional information.

Thank you,

Laura Peña  
Environmental Project Scientist  
RICE Operating Company

**EME K-6 leak  
Unit Letter K, Section 6, T20S, R37E**



excavating the site



hauling excavated soil to Sundance for disposal



excavating the site



importing blow sand



installing the plastic liner



installing the plastic liner





seaming the liners together



seaming the liners together



padding the liner with blow sand



padding the liner with blow sand



backfill the site with surrounding dunes



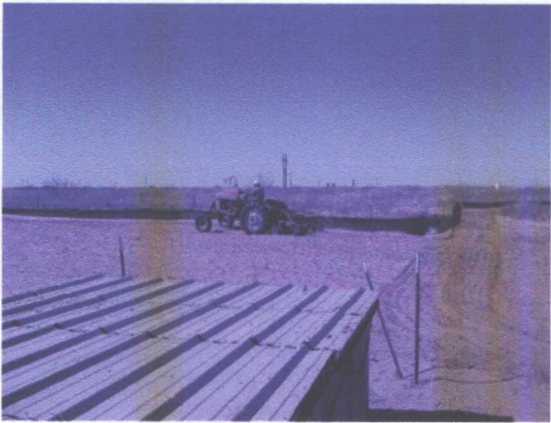
scraping the vegetation from the sand dunes



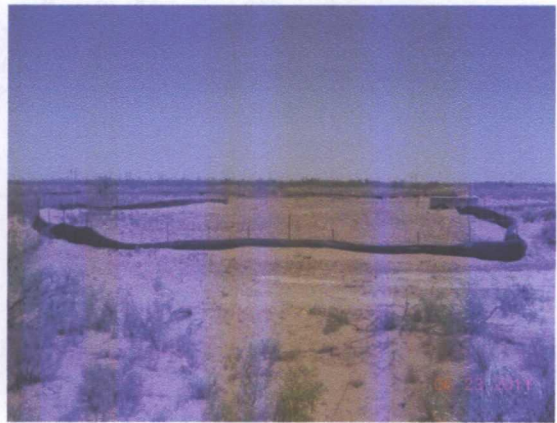
placing the fence with silk netting around site



seeding the backfilled site



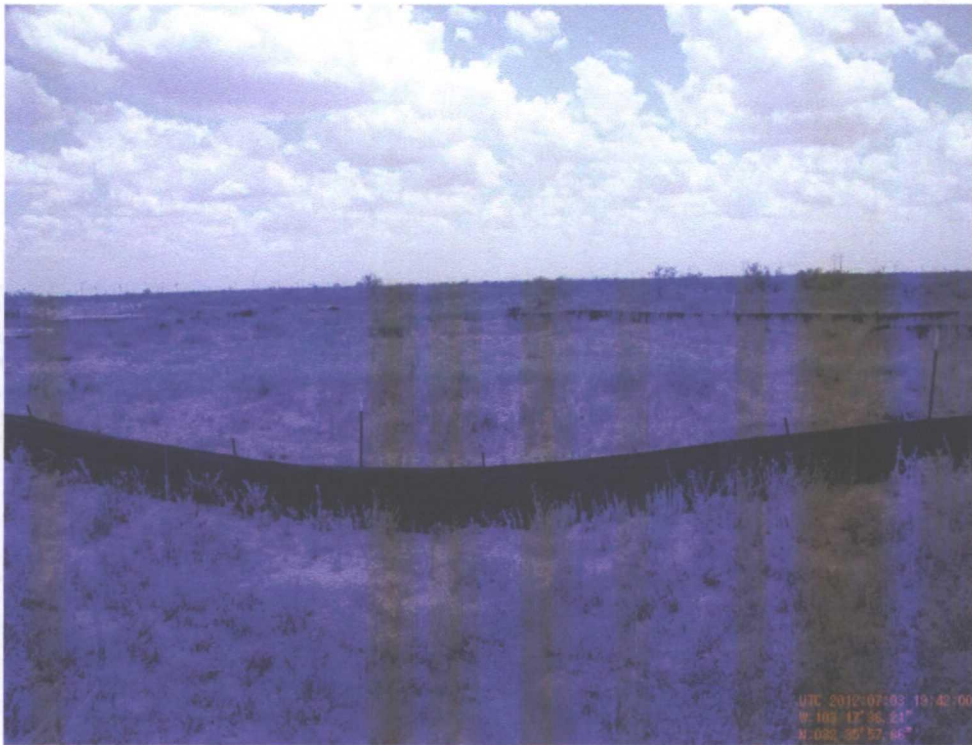
disking the site



completed site work



EME K-6 leak (1RP-2552)  
Unit Letter K, Section 6, T20S, R37E



Facing South

7/3/2012



Facing West

7/3/2012