

**AP - 83**

**WORK PLAN**

**YEAR(S):**  
**12-28-06**

AP-83  
Work Plan  
12-28-06

**L. Peter Galusky, Jr. Ph.D., P.G.**

*Texerra*

**December 28<sup>th</sup>, 2006**

2007 JAN 5 PM 1 01

**Mr. Edward Hansen, Hydrologist**

New Mexico Energy, Minerals, & Natural Resources  
Oil Conservation Division, Environmental Bureau  
1220 S. St. Francis Drive  
Santa Fe, New Mexico 87504

**RE: Investigation and Characterization Plan  
C-16(1) Leak EME Salt Water Disposal System  
UL-C, Sec 16 T20S R37E  
NMOCD Case Number: 1R0476**

Sent via U.S. Mail w/ Return Receipt No. 7005 0390 0002 9898 2648

**Mr. Hansen:**

Please find attached printed copies of our previous correspondence sent via e-mail.  
Please note that I have added the case number onto the cover of the ICP.

Per our previous correspondence we drilled this site December 12<sup>th</sup>, and will submit a report to your office in due course.

Please do not hesitate to contact me if you have any questions or need additional information.

Sincerely,



L. Peter (**Pete**) Galusky, Jr. Ph.D., P.G.  
*Principal*

**Texerra**

505 N. Big Spring, Suite 404  
Midland, Texas 70701  
Tel: 432-634-9257  
E-mail: [lpg@texerra.com](mailto:lpg@texerra.com)  
Web site: [www.texerra.com](http://www.texerra.com)

Copy: Kristin Pope, Rice Operating Company

**L. Peter Galusky, Jr. Ph.D., P.G.**

*Texerra*

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**November 24<sup>th</sup>, 2006**

**Mr. Wayne Price**

New Mexico Energy, Minerals, & Natural Resources  
Oil Conservation Division, Environmental Bureau  
1220 S. St. Francis Drive  
Santa Fe, New Mexico 87504

**RE: Investigation and Characterization Plan  
C-16(1) Leak EME Salt Water Disposal System – OCD No. 1R0476  
UL-C, Sec 16 T20S R37E**

Sent via E-mail and U.S. Mail w/ Return Receipt No. 7005 0390 0002 2648

**Mr. Price:**

RICE Operating Company (ROC) has retained L. Peter Galusky, Jr. Ph.D. to address potential environmental concerns at the above-referenced site. 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 Partners, who provide all operating capital on a percentage ownership/usage basis. Environmental projects of this magnitude require System Partner AFE approval, and work begins as funds are received. In general, project funding is not forthcoming until NMOCD approves the work plan. Therefore, your timely review of this submission would be greatly appreciated.

For all such environmental projects, ROC will choose a path forward that:

- protects public health,
- provides the greatest net environmental benefit,
- complies with NMOCD Rules, and
- is supported by good science.

Each site shall generally have three submissions, as described below:

1. An Investigation and Characterization Plan (ICP) is proposed for data gathering and site characterization and assessment.
2. Upon evaluating the data and results from the ICP, a recommended remedy will be submitted in a Corrective Action Plan (CAP) if this is warranted.
3. Finally, after implementing the remedy, a Closure Report with final documentation will be submitted.

## **Background and Previous Work**

Rice Operating Company (ROC) discovered an accidental discharge of produced water at the referenced location on October 12, 2005 (see attached road map). The source of the release was an asbestos-cement pipeline failure, releasing an estimated 35 bbls of produced water. The 4-inch diameter pipeline was replaced with a 4-foot segment of PVC pipe, thus minimizing the threat of future releases and compounded impact.

The surface area affected by this release was approximately 3,700 sq ft (less than 1/10<sup>th</sup> of an acre). Regional groundwater information indicates that the depth to groundwater is approximately 17 to 20 ft below ground surface at this location.

Soil sampling was undertaken by ROC on October 25<sup>th</sup>, 2005. The initial sampling and impact delineation encompassed the area of the release. Samples were taken from the surface to a depth of 3 to 4 feet, using a hand auger, and analyzed for chlorides and organics using field titration and a portable PID, respectively. A subset of samples was sent to a commercial laboratory for verification of field results. A second round of soil sampling was undertaken using a backhoe on November 18<sup>th</sup>, 2005, where soils were sampled to depths of 12 to 14 ft at locations indicated during the previous investigation. Soils were analyzed for chlorides and organics as noted previously.

As part of the emergency response procedure, approximately 120 cu yds of chloride-contaminated soil material from the upper 6 inches of the affected area was removed. This material was taken to the Sundance Disposal facility in Eunice, NM in February, 2006. The site was regraded to original contours, using clean soil material as backfill.

The following scope of work is proposed to provide definitive and sufficient information for the development of a Corrective Action Plan and/or Closure Request.

## **Proposed Work Elements**

1. Summarize information and data collected by ROC to date.
2. Summarize additional, publicly available regional and local hydrological information.
3. Complete the vertical and lateral delineation of soil chloride concentrations, and prepare three-dimensional graphics to illustrate the horizontal and vertical extent of contamination.
4. If warranted, install monitor wells sufficient to determine up-gradient, zone-of-release and down-gradient groundwater chloride concentrations. [All monitoring wells will be constructed (with the annular space sealed with a cement/bentonite mix) per NM Dept. Environment standards].
5. Evaluate the risk of groundwater impact in light of the information obtained.

If the evaluation demonstrates that residual constituents pose no threat to ground water quality, then only a surface restoration plan will be proposed to OCD. If, as a result of this work, it is believed that this produced water leak does pose a present or future risk

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of impacting groundwater quality, then a corrective action plan (CAP) will be developed and proposed to OCD.

It should be noted that since this release is approximately 400 feet west of a subsequent release (C-16-2) on the same pipeline, that the field investigation will be conducted in conjunction with that for C-16-2, to optimize the locations of any monitor wells which may be installed.

I appreciate the opportunity to work with you and your staff on this project. Please call either myself, at the number below, or Kristin Farris Pope (ROC) at 505-393-9174, if you have any questions or wish to discuss these matters.

Thank you for your consideration.

Sincerely,



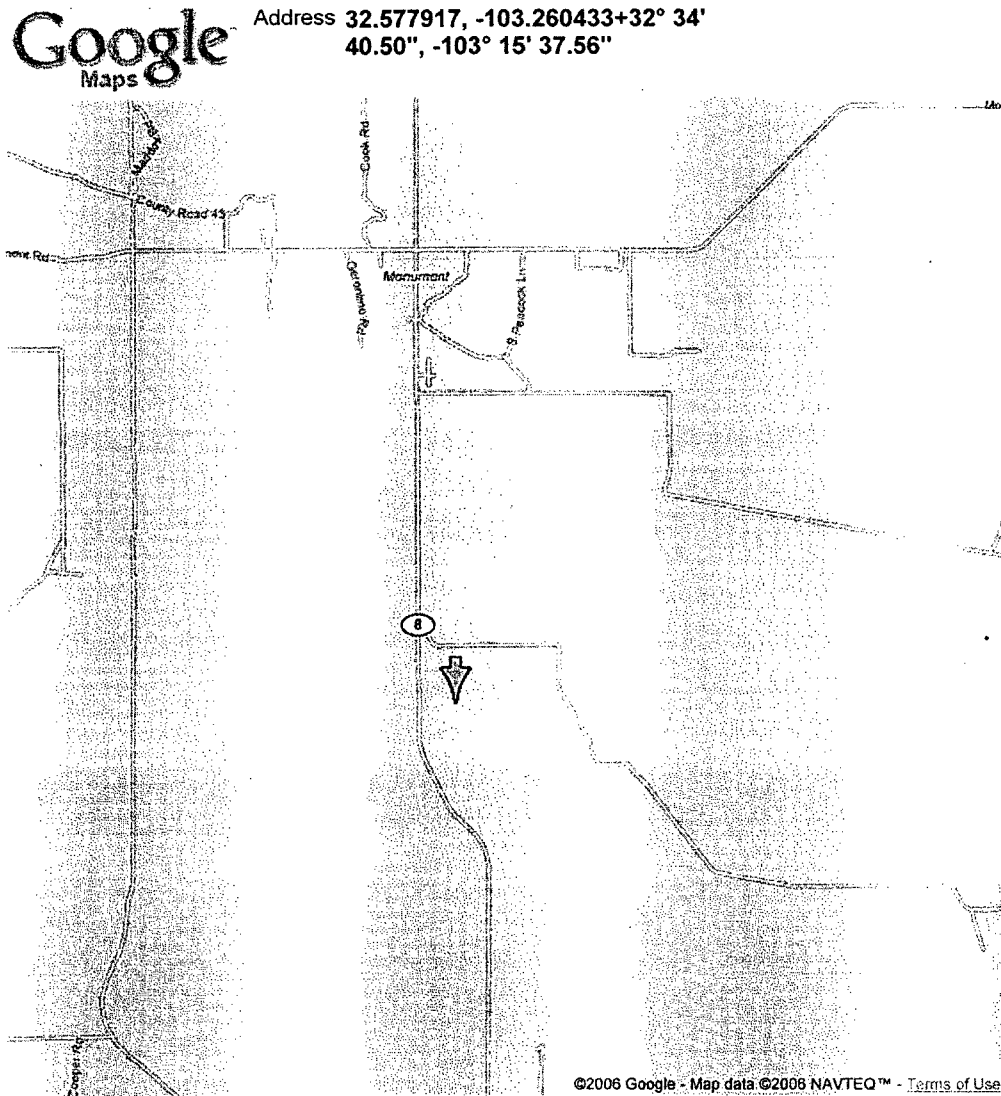
L. Peter (**Pete**) Galusky, Jr. Ph.D., P.G.  
*Principal*

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505 N. Big Spring, Suite 404  
Midland, Texas 79701  
Tel: 432-634-9257  
E-mail: [lpjg@texerra.com](mailto:lpjg@texerra.com)  
Web site: [www.texerra.com](http://www.texerra.com)

cc: CDH, KFP, file

attachments: site location map, C-141



**Directions:**

- Starting in Monument at the intersection of Hwys 8 and 322, travel south on Hwy 8 for 2.9 miles.
- Turn east on dirt road, going through a cattle guard.
- Take east (left) fork. Take 2<sup>nd</sup> lease road past drilling location, turning south for 500 ft.
- Release location is on west side of road.

**GPS Coordinates:**

Lat: 32 deg 34.674 minutes

Long: -103 deg 15.626 minutes

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:
Address: 122 West Taylor	Telephone No.: 505-393-9174
Facility Name: EME	Facility Type: SWD Gathering line

Surface Owner: STATE leased to SW Cattle Co.	Mineral Owner:	Lease No.:
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**LOCATION OF RELEASE**

Unit Letter C	Section 16	Township 20S	Range 37E	Feet from the	North/South Line	Feet from the	East/West Line	County
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**Latitude:** 32\*34.675N **Longitude:** 103\*15.626W

**NATURE OF RELEASE**

Type of Release: Produced water	Volume of Release: 35 bbls	Volume Recovered: 0
Source of Release: Pipeline	Date and Hour of Occurrence: 10/12/05	Date and Hour of Discovery: 10/12/05 4:30 pm
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Paul Sheeley	
By Whom? Jennifer Johnson	Date and Hour: 10/13/05 left message at 2:45 pm	
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.\*  
4" AC Pipeline cracked, replaced with 4" PVC Pipeline

Describe Area Affected and Cleanup Action Taken.\*

Approximately 3728 sq feet affected. Delineation results and work plan to follow.

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.

		<b><u>OIL CONSERVATION DIVISION</u></b>	
Signature:		Approved by District Supervisor:	
Printed Name: Jennifer Johnson		Approval Date:	
Title: Environmental and Field Technician		Expiration Date:	
E-mail Address: jjriceswd@valornet.com		Conditions of Approval:	
Date: 10/14/05 Phone: 505-393-9174		Attached <input type="checkbox"/>	

\* Attach Additional Sheets If Necessary