

1R - 427-173

**GENERAL  
CORRESPONDENCE**

**YEAR(S):  
2007**

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

*Texerra*

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**July 16th, 2007**

**Mr. Edward Hansen**

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  
Rice Operating Company – EME SWD System  
L-15-1 Vent (UL L Sec 15 T 20S R 37E)**

1R427-173

Sent via E-mail and U.S. Certified Mail: Return Receipt No. 7006 0100 0001 2438 3852

**Dear Mr. Hansen:**

RICE Operating Company (RICE) has retained Texerra 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. This Investigation and Characterization Plan (ICP) is a proposal 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**

The site is located approximately three miles south/southeast of Monument in Lea County (Figure 1). The topography is gently sloping toward the southeast. Soils on the site are mapped in the Lea County Soil Survey as belonging to Pyote-Maljamar-Kermit soil association. These are characterized as gently undulating and rolling, sandy soils of six feet or more depth overlying caliche. Groundwater is believed to occur at a depth of approximately 25 +/- feet, occurring in unconsolidated Tertiary alluvium of the Ogallala Formation, and is believed to flow toward the southeast in the direction of the surface topographic gradient.

As part of their on-going SWD facility upgrades, Rice removed a junction box (associated with a vent) at this location in March of 2004. A grab soil sample taken 12 ft below the surface found a soil chloride concentration of 1,570 ppm and a diesel range organics (DRO) concentration of 1,690 ppm; (see Appendix A). OCD was notified that this site has potential for groundwater impacts, and subsequent site investigation was then planned. A photographic chronology of these activities is provided in Appendix B.

The surface (ecological) impact of this junction box was limited, as visual observation indicated that vegetation was not affected beyond approximately 15 ft from the former junction box; (Photograph 1). However, as some potential for groundwater contamination may exist, further evaluation is warranted for petroleum hydrocarbons and chlorides, the constituents of concern. Therefore, ROC proposes additional investigative work, as outlined below, to determine if groundwater was impacted by the former junction box.

It should be noted that the source of this impact is historical, since the former junction box has been removed. Further, baseline groundwater quality is known to be impaired in many locations due to historical practices in the Monument area.

## **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 a vertical and lateral delineation of soil hydrocarbon concentrations (using a PID) and of soil chlorides (using field titration). Field methods will be verified against laboratory analysis of representative samples. Prepare 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]. It should be noted, however, that the presence of active production facilities nearby may constrain the placement of borings and monitor wells.
5. Evaluate the risk of groundwater impact in light of the information obtained.

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If the evaluation demonstrates that residual constituents pose no threat to ground water quality, then only a surface restoration plan protective of groundwater will be proposed to OCD. If further study indicates that this junction box site may pose a present or future risk of impacting groundwater quality, then a corrective action plan (CAP) will be developed for the protection of groundwater, and this will be proposed to OCD.

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*

## Texerra

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cc: CDH, KFP, file

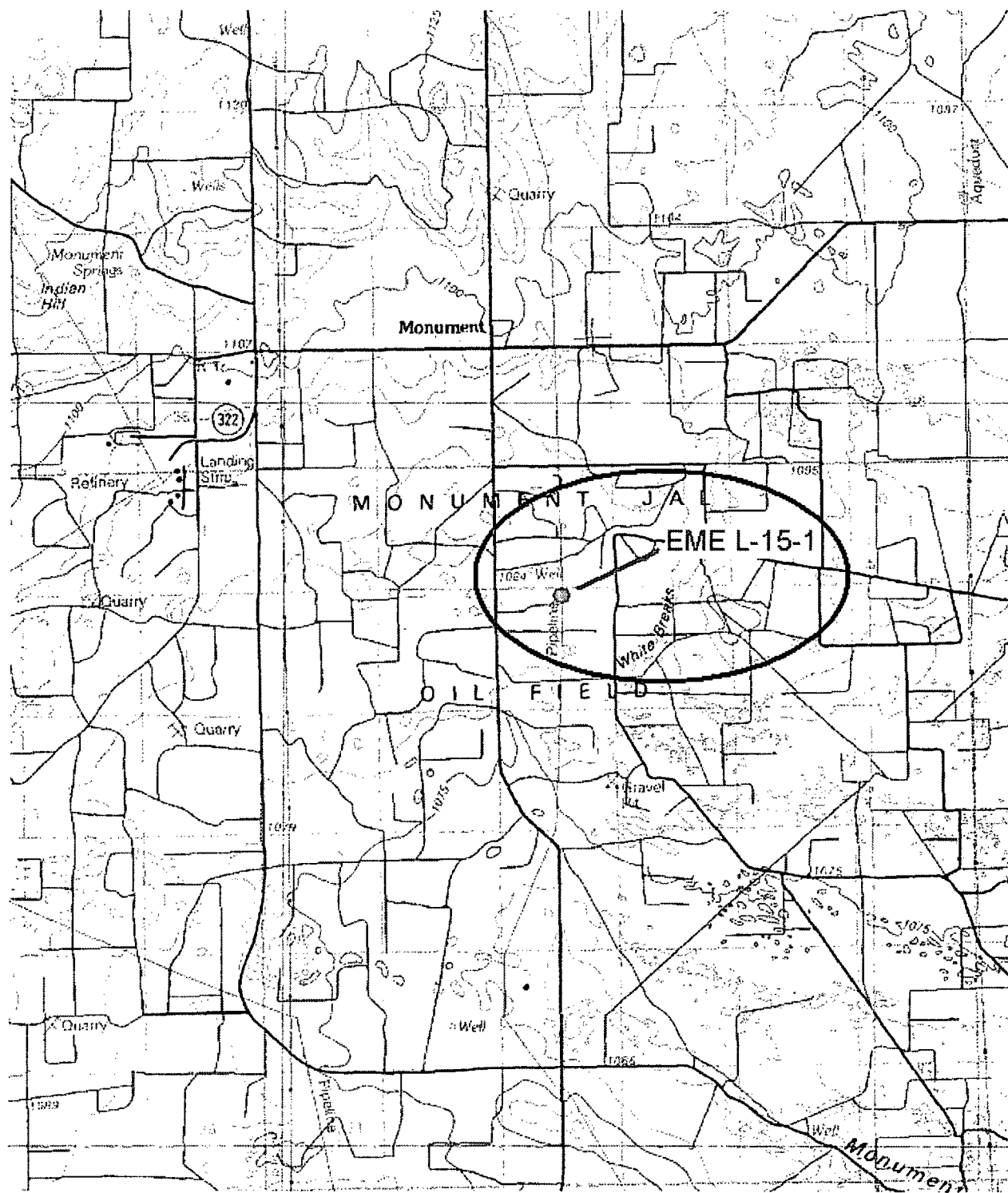


Figure 1 – Site Location Map. Approx. scale: 1 inch = 1 mile.

## Appendix A – Junction Box Disclosure Report

RICE OPERATING COMPANY  
JUNCTION BOX DISCLOSURE\* REPORT

| BOX LOCATION |             |      |         |          |       |        | BOX DIMENSIONS - FEET |       |       |
|--------------|-------------|------|---------|----------|-------|--------|-----------------------|-------|-------|
| SWD SYSTEM   | JUNCTION    | UNIT | SECTION | TOWNSHIP | RANGE | COUNTY | Length                | Width | Depth |
| EME          | L-15-1 vent | L    | 15      | 20S      | 37E   | Lea    | no box--eliminated    |       |       |

LAND TYPE: BLM \_\_\_\_\_ STATE \_\_\_\_\_ FEE LANDOWNER S & W Cattle Company OTHER \_\_\_\_\_Depth to Groundwater 17 feet NMOCD SITE ASSESSMENT RANKING SCORE: 20Date Started 3/22/2004 Date Completed 11/3/2004 OCD Witness NoSoil Excavated 12 cubic yards Excavation Length 3 Width 9 Depth 12 feetSoil Disposed 0 cubic yards Offsite Facility n/a Location n/aFINAL ANALYTICAL RESULTS: Sample Date 3/22/2004 Sample Depth 12 ft

TPH, BTEX and Chloride laboratory test results completed by using an approved lab and testing procedures pursuant to NMOCD guidelines.

| Sample Location | Benzene mg/kg | Toluene mg/kg | Ethyl Benzene mg/kg | Total Xylenes mg/kg | GRO mg/kg | DRO mg/kg | Chloride mg/kg |
|-----------------|---------------|---------------|---------------------|---------------------|-----------|-----------|----------------|
| 12 ft GRAB      | <0.005        | <0.005        | 0.022               | 0.051               | 24.9      | 1690      | 1570           |

## General Description

## of Remedial Action:

This junction box contained a vent.The junction was eliminated and the pipeline was lain straight through this location.The box lumber was removed and the site was delineated using a backhoe while PIDscreenings and chloride field tests were conducted every 2 feet of depth. Chloride impact wasconsistently elevated to the reach of the backhoe (12 ft bgs). A grab sample at 12 ft wascollected for lab analysis. NMOCD TPH guidelines were not met. The excavated soil wasblended on site and then backfilled into the delineation trench and contoured to thesurrounding surface. An identification plate has been placed on the surface to markthe site of the former junction box for future environmental consideration. NMOCDhas been notified of potential groundwater impact at this site.

## CHLORIDE FIELD TESTS

| LOCATION             | DEPTH (ft) | ppm  |
|----------------------|------------|------|
| vertical at junction | 6          | 1490 |
|                      | 8          | 2750 |
|                      | 10         | 2546 |
|                      | 12         | 2129 |
| background           | 0.5        | 50   |

ADDITIONAL EVALUATION IS ***HIGH PRIORITY.***

enclosures: chloride graph, photos, lab results

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

SITE SUPERVISOR Joe Gatts SIGNATURE \_\_\_\_\_ COMPANY RICE Operating CompanyREPORT ASSEMBLED BY Kristin Farris Pope SIGNATURE \_\_\_\_\_DATE 2/2/2005 TITLE Project Scientist*\* This site is a "DISCLOSURE." It will be placed on a prioritized list of similar sites for further consideration.*



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### Appendix B – Photo chronology.



**Photograph 1 – Junction box at EME L-15-1 before removal.**



**Photograph 2 – Soils evaluation at vent adjacent to former junction box.**



**Appendix B – Photo chronology (continued)**



**Photograph 3 – Backfilling of excavation.**



**Photograph 4 – View of site following junction box removal. Note that a steel marker plat has been installed at the ground surface for future reference.**