7-181 1R -

WORKPLANS

DATE:

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

Texerra

2008 JUN 6 PM 1 35

RECEIVED

May 30th, 2008

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 EME Jct O-19 and EME Phillips B_EOL /R 427~/8/

Sent via E-mail & U.S. Certified Mail w/ Return Receipt 7007 0710 0305 3743

Dear Mr. Hansen:

RICE Operating Company (ROC) has retained Texerra to address potential environmental concerns at the <u>two</u> above-referenced sites located in the EMS 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 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 <u>Investigation and Characterization Plan</u> (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 <u>Corrective Action Plan</u> (CAP) if this is warranted.
- 3. Finally, after implementing the remedy, a <u>Closure Report</u> with final documentation will be submitted.

This ICP is intended to encompass two sites within the EME SWD system, where the proposed scopes of work are tailored to the respective projects.

EME O-19 Junction Box

Background and Previous Work

The site is located approximately five miles south/southwest of Monument, New Mexico (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 the Pyote-Maljamar-Kermit association, which are characterized ad gently undulating and rolling, deep, sand soils. NM OSE records indicate that groundwater is likely to be encountered at a depth of 23+/- feet in unconsolidated Tertiary alluvium of the Ogallala Formation.

ROC removed this junction box in March of 2003 as part of its facility maintenance and upgrade program. (See Figure 2: Rice Junction Box Disclosure Report). The wood junction box was removed and soils were sampled using a trackhoe, creating a 10 by 10 by 12 ft deep excavation. A one foot thick compacted clay barrier was installed at the bottom of the excavation which was backfilled with the excavated soil to ground level. The disturbed surface was then seeded with a native vegetation mix.

Significant concentrations (approx. 2,000 +/- ppm) of diesel range organics (DRO) were encountered in the excavated soil with a lower concentration found (334 ppm) at 12 ft below ground surface (bgs). Chloride concentrations increased with depth to a value of 1,150 ppm at 12 ft bgs. <u>Petroleum hydrocarbons and chlorides</u> thus represent the <u>constituents of concern</u>. The surface (ecological) impact of this release was relatively small.

ROC proposes additional investigative work, as outlined below, to more definitively evaluate the extent of residual petroleum hydrocarbons and chlorides, and to then evaluate the potential for groundwater degradation. Yet, it should be noted that the source of this impact is historical. There is no longer a threat of continued, compounded impact at this site as the former junction box has been removed and a clay barrier installed to impeded downward migration of potential contaminants.

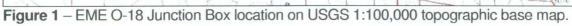
Proposed Work Elements

- 1. Summarize information and data collected by ROC to date.
- 2. Summarize additional, publicly available regional and local hydrological information.
- Conduct vertical and lateral delineation of soil <u>chlorides</u> and <u>petroleum hydrocarbons</u>. If warranted, install one or more monitor wells to provide a direct measurement of potential groundwater impact. [All monitoring wells will be constructed per NM Dept. Environment standards].
- 4. 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 this work indicates that there is a present or future risk of impacting groundwater quality from past operations at this location, then a corrective action plan (CAP) will be developed and proposed to OCD.

Rice Operating Company – EME SWD System





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Background and Previous Work

The site is located approximately 2.7 miles southeast of Monument, New Mexico (Figure 3) in the rolling sandy hills (the "White Breaks") that characterize this area. Soils on the site are mapped in the Lea County Soil Survey as belonging to the Berino-Cacique association, which are characterized as nearly level and gently sloping, sandy soils that are deep and moderately deep to soft or indurated caliche. NM OSE records indicate that groundwater is likely to be encountered at a depth of 20+/- feet in unconsolidated Tertiary alluvium of the Ogallala Formation.

ROC replaced a wooden junction box at this location with a new, water-tight junction in July of 2004 as part of its facility maintenance and upgrade program. (See Figure 4: Rice Junction Box Disclosure Report). As the original wood junction box was removed soils were sampled using a backhoe, creating a 20 by 10 by 12 ft deep excavation. The excavated soils were blended and then backfilled into the excavation. The disturbed surface was then seeded with a native vegetation mix.

Insignificant concentrations (< 100 ppm) of gasoline and diesel range organics (DRO) were encountered in the excavated soil and in the sidewalls and bottom of the excavation. Petroleum hydrocarbons were therefore ruled out as a potential constituent of concern. Chloride concentrations exceeded 2,000 ppm at adjacent sampling locations at depths of 11 ft below ground surface (bgs). The surface (ecological) impact of this release was relatively small.

ROC proposes additional investigative work, as outlined below, to more definitively evaluate the extent of residual chlorides (the constituent of concern), and to then evaluate the potential for groundwater degradation. Yet, it should be noted that the source of this impact is historical. There is no longer a threat of continued, compounded impact at this site as the former junction box has been removed.

Proposed Work Elements

- 1. Summarize information and data collected by ROC to date.
- 2. Summarize additional, publicly available regional and local hydrological information.
- Conduct vertical and lateral delineation of soil <u>chlorides</u>. If warranted, install one or more monitor wells to provide a direct measurement of potential groundwater impact. [All monitoring wells will be constructed per NM Dept. Environment standards].
- 4. 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 this work indicates that there is a present or future risk of impacting groundwater quality from past operations at this location, then a corrective action plan (CAP) will be developed and proposed to OCD.

Rice Operating Company – EME SWD System





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Rice Operating Company – EME SWD System

I appreciate the opportunity to work with you and your staff on these projects. Please call either myself, at the number below, or Marvin Burrows (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

505 N. Big Spring, Suite 404 Midland, Texas 70701 Tel: 432-634-9257 E-mail: <u>lpg@texerra.com</u> Web site: www.texerra.com

cc: Rice Operating Company

Attachments: Site Maps, Junction Box Disclosure Reports as noted