

1R - 427-173

REPORTS

DATE:

3-7-08

Hansen, Edward J., EMNRD

From: L. Peter Galusky, Jr. P.E. [lpg@texerra.com]
Sent: Wednesday, August 27, 2008 2:27 PM
To: Hansen, Edward J., EMNRD
Cc: Hack Conder; Lara Weinheimer
Subject: Fw: Rice Operating Company - EME L-15-1 OCD Case No. 1R427-173
Attachments: 2797519657-EME L-15-1 ICP Report.pdf; EME L-15-1 8.15.08 revegetation 1.JPG; EME L-15-1 8.15.08 revegetation 2.JPG

Edward,

Please find attached a couple of recent (August 15th) photographs of the above-referenced site. I believe that these provide further evidence that surface effects associated with the operation of the former junction box were negligible, as the natural vegetation is recovering nicely following our drilling activities there earlier this year.

I thus respectfully ask your consideration of our request for closure of this site.

Please call me if you have any questions or wish to discuss.

Thank you.

Sincerely,

L. Peter (Pete) Galusky, Jr. Ph.D.
Texerra
Cell: 432-634-9257

--- On Fri, 3/7/08, L. Peter Galusky, Jr. P.E. <lpg@texerra.com> wrote:

From: L. Peter Galusky, Jr. P.E. <lpg@texerra.com>
Subject: Rice Operating Company - EME L-15-1 OCD Case No. 1R427-173
To: "Edward J. Hansen" <edwardj.hansen@state.nm.us>
Cc: "Kristin Pope" <kpope@riceswd.com>
Date: Friday, March 7, 2008, 2:13 PM

Dear Mr. Hansen,

Please find attached the Investigation and Characterization Report for the above-referenced project. A hard copy of this will be sent to you via certified U.S. mail.

Thank you for your consideration.

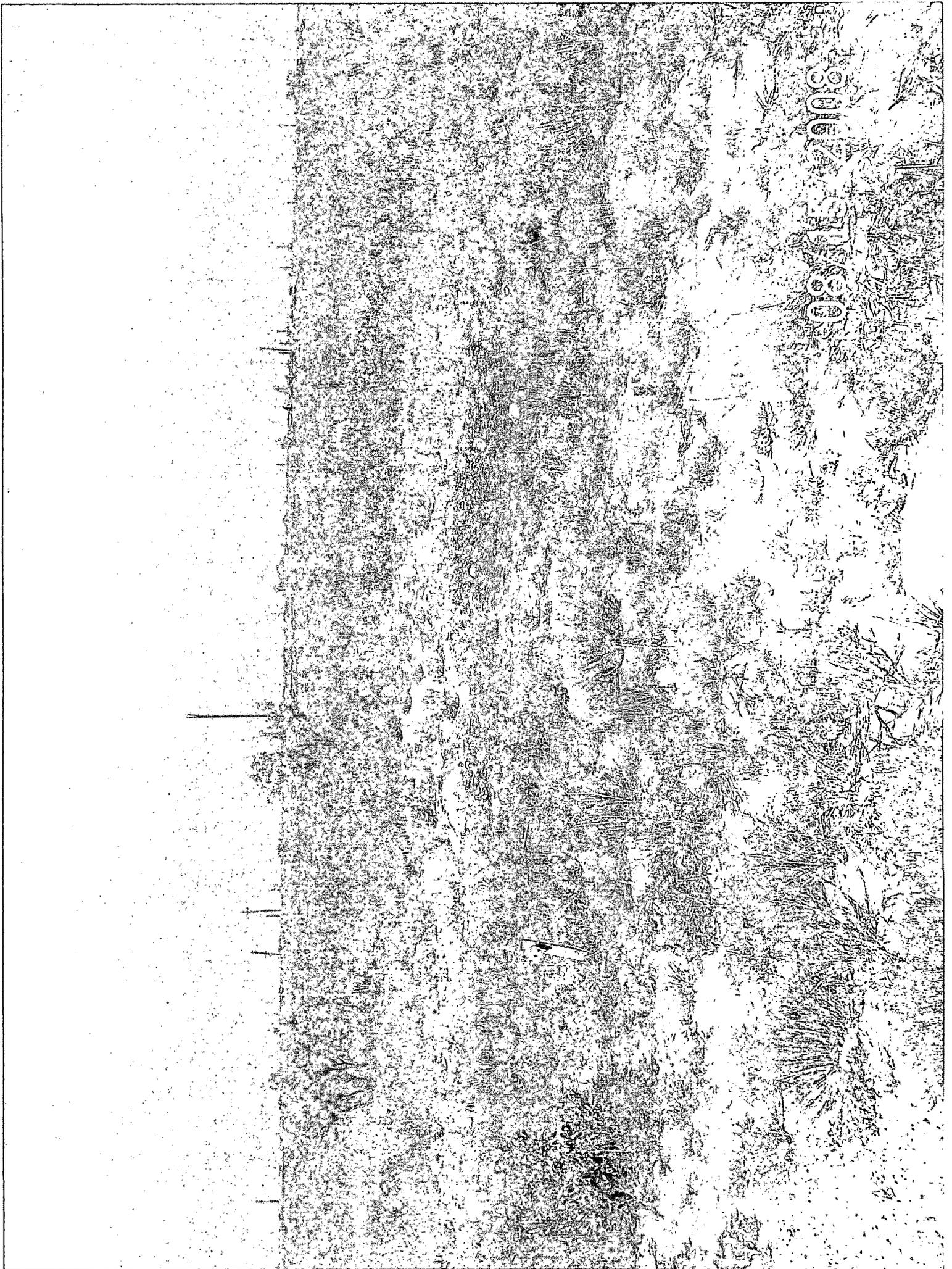
Sincerely,

Pete Galusky

L. Peter Galusky, Jr. Ph.D.
Principal
Texerra
Energy Square
505 N. Big Spring, Suite 404
Midland, Texas 79701
E-mail: lpg@texerra.com
Web: www.texerra.com
Office Telephone/Fax: 877-534-9001

This inbound email has been scanned by the MessageLabs Email Security System.

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

Texerra

RECEIVED

2008 MAR 19 PM 3 43

March 7th, 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 Report
Rice Operating Company – EME SWD System
L-15-1 Vent (UL L Sec 15 T 20S R 37E)
OCD Case No.: 1R427-173**

Sent via E-mail and U.S. Mail, Certified Return Receipt No. 7007 0710 0003 0305 3682

Dear Mr. Hansen:

My company completed a soils evaluation for the above-referenced site per the Investigation and Characterization Plan dated July 16th of 2007, and which your office subsequently approved.

A soil boring was advanced at the former junction box location using a rotary auger drill on November 29th of last year (Figure 1). Samples were analyzed at five foot increments and field titrated for chlorides and tested for organics using a portable PID instrument (Table 1). Two sub-samples were sent to Cardinal Laboratories for a quality-check of the field results (Figures 2a & 2b).

Chloride and diesel range organics were somewhat elevated in the upper 10 ft, indicating perhaps incidental but minor leakage from the former junction box. However, both chlorides and organics dropped to insignificant levels below 10 ft depth, with both having values less than 300 ppm. Stiff, red sandy clay was encountered at a depth of 20 ft below ground surface and continued to the limit of evaluation at 40 ft, where no groundwater was encountered.

Given the relatively low levels of chlorides and organics found near the ground surface, their precipitous decline to insignificant levels below 10 ft depth, the presence of impermeable clays in the substratum and the absence of groundwater, it is my opinion that the former junction box at this location does not pose a threat to groundwater. On behalf of my client, Rice Operating Company, I therefore request that this project be considered "closed" and dropped from OCD's list of potentially impacted sites.

Texerra

I welcome your thoughts on this matter, and would be pleased to discuss any details with you at your convenience.

Thank you for your consideration.

Sincerely,

A handwritten signature in black ink, appearing to be 'L. Peter Galusky, Jr.', written in a cursive style.

L. Peter Galusky, Jr. Ph.D.
Principal

Enclosures: Investigation and Characterization Plan of July 16th, 2007

Copies: Kristin Pope, Rice Operating Company

EME L-15-1 Vent



Figure 1 – Atkins Engineering Associates drill rig at EME L-15-1 on November 29th, 2007.

Texerra

Table 1 – Soil boring log and chemical parameters at the site of the former junction box at EME L-15-1.

Soil Boring Log						
Rice Operating Company						
EME Field SWD System						
EME L-15-1 Vent						
Identification:		SB-1				
Location:		At former junction box location.				
Date:		11/29/2007				
Driller:		Atkins Engineering Associates, Inc.				
Drill method:		Rotary auger				
Logged by:		L. Peter Galusky, Jr., Texerra				
Total depth:		40 ft below ground surface				
Screened interval:		n/a (no well installed)				
Pipe diameter:		"				
<u>Depth (ft)</u>						
<u>below</u>	<u>Field</u>	<u>Lab</u>				
<u>ground</u>	<u>Chloride</u>	<u>Chloride</u>	<u>Field PID</u>	<u>Lab GRO</u>	<u>Lab DRO</u>	
<u>surface)</u>	<u>Test (ppm)</u>	<u>Test (ppm)</u>	<u>test (ppm)</u>	<u>test (ppm)</u>	<u>test (ppm)</u>	<u>Cutting Description</u>
-5	1,319		1			light grayish brown caliche sand backfill
-10	1,550	2,560	72	15	1,190	light brown sandy loam/caliche
-15	500		128			"
-20	272		10			stiff red sandy clay
-25	319		5			"
-30	387		7			"
-30	290		6			"
-35	335		9			"
-40		288		70	288	" ; no water

EME L-15-1
At-Source Soil Chloride Concentrations

Depth (ft)	Field Chloride Test (ppm)
-5	1,319
-10	1,550
-15	500
-20	272
-25	319
-30	387
-30	290
-35	335
-40	288



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

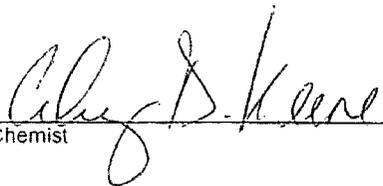
ANALYTICAL RESULTS FOR
 RICE OPERATING COMPANY
 ATTN: KRISTIN FARRIS-POPE
 122 W. TAYLOR
 HOBBS, NM 88240
 FAX TO: (575) 397-1471

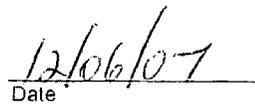
Receiving Date: 11/30/07
 Reporting Date: 12/05/07
 Project Owner: NOT GIVEN
 Project Name: EME L-15-1
 Project Location: NOT GIVEN

Sampling Date: 11/29/07
 Sample Type: SOIL
 Sample Condition: COOL & INTACT
 Sample Received By: KS
 Analyzed By: CK/HM

LAB NUMBER	SAMPLE ID	GRO	DRO	CI*
		(C ₆ -C ₁₂) (mg/kg)	(>C ₁₂ -C ₂₆) (mg/kg)	
ANALYSIS DATE		12/04/07	12/04/07	12/03/07
H13809-1	5'-10' SOIL BORE #1	14.8	1190	2560
H13809-2	35'-40' SOIL BORE #1	<10.0	69.9	288
Quality Control		537	398	500
True Value QC		500	500	500
% Recovery		107	80	100
Relative Percent Difference		9.4	1.8	<0.1

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; Std. Methods 4500-CI*B
 *Analyses performed on 1:4 w:v aqueous extracts.


 Chemist


 Date

H13809TCL RICE

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

Figure 2a – Laboratory analyses.

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

Texerra

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)**

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.

Texerra

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.

Texerra

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

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

cc: CDH, KFP, file

Texerra

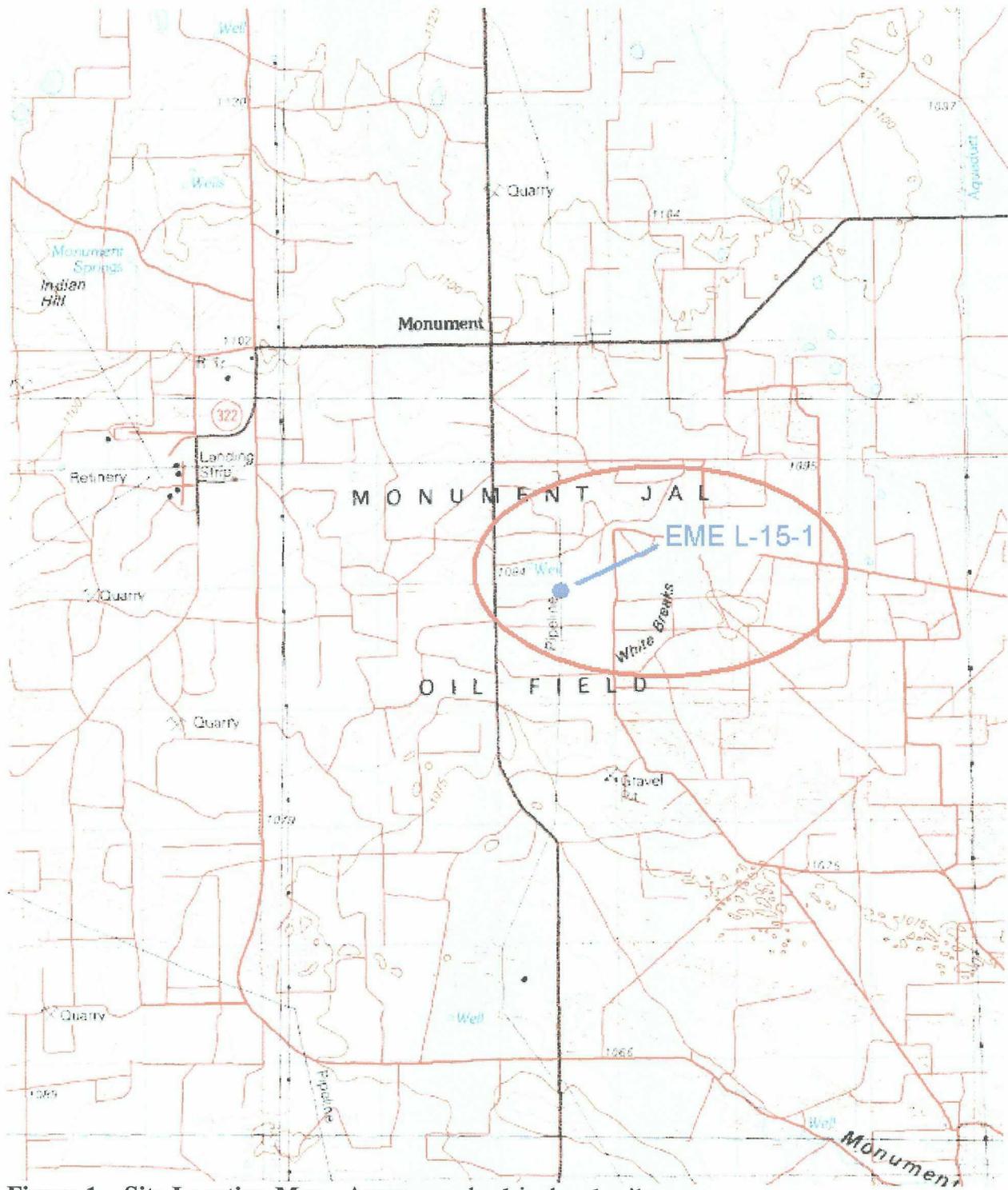


Figure 1 – Site Location Map. Approx. scale: 1 inch = 1 mile.

Appendix A – Junction Box Disclosure Report

RICE OPERATING COMPANY
JUNCTION BOX DISCLOSURE* REPORT

BOX LOCATION

SWD SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE	COUNTY	BOX DIMENSIONS - FEET		
							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: 20

Date Started 3/22/2004 Date Completed 11/3/2004 OCD Witness No

Soil Excavated 12 cubic yards Excavation Length 3 Width 9 Depth 12 feet

Soil Disposed 0 cubic yards Offsite Facility n/a Location n/a

FINAL 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 PID screenings and chloride field tests were conducted every 2 feet of depth. Chloride impact was consistently elevated to the reach of the backhoe (12 ft bgs). A grab sample at 12 ft was collected for lab analysis. NMOCD TPH guidelines were not met. The excavated soil was blended on site and then backfilled into the delineation trench and contoured to the surrounding surface. An identification plate has been placed on the surface to mark the site of the former junction box for future environmental consideration. NMOCD has 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 Company

REPORT 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.*

Texerra

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.