1R - 426-99

WORKPLANS

DATE:
10-5-09

IR426-99
BD Vent O-23

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

October 5th, 2009

RECEIVED
OCT 16 2009
Environmental Bureau
Oil Conservation Division

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 – BD SWD System
BD O-23 Junction Box UL O, Sect 23, Township 21S, Range 37E

Sent via E-mail & U.S. Certified Mail w/ Return Receipt 7006 0710 0003 0305 3750

Dear Mr. Hansen:

RICE Operating Company (ROC) has retained Texerra to address potential environmental concerns at the above-referenced site located in the BD SWD system. ROC is the service provider (agent) for the BD 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. Environmental projects of this magnitude require System Party 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 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 Termination Request with final documentation will be submitted.

Background and Previous Work

The site is located approximately 2.25 miles northeast of Eunice, New Mexico (Figure 1). The regional topography is gently sloping toward the southeast. Soils on the location are characterized in the Lea County Soil Survey as nearly level and gently sloping, sandy soils that are deep and moderately deep to soft or indurated (hard) caliche. NM OSE records indicate that groundwater is likely to be encountered at a depth of approximately 65+/- feet in unconsolidated Tertiary alluvium of the Ogallala Formation.

As part of Rice Operating Company's SWD pipeline upgrade plan, adjacent junction boxes at this location were removed in March of 2004. Subsequent initial soil evaluation was completed in May of 2004. A Junction Box Disclosure Report was submitted to NMOCD with the 2004 junction box closure and disclosure reports (Figure 2). Soil chloride concentrations (determined by field titration) at the source ranged from 1,405 ppm at the surface to 1,830 ppm at a depth of 12 ft below ground surface (bgs). PID readings, ranging from 180 ppm at 6 ft bgs to 298 ppm at 12 ft bgs, indicated elevated levels of residual petroleum hydrocarbons

The excavated soil was blended on site, backfilled into the excavation and then contoured to the surrounding terrain. An identification plate was placed on the surface to mark this location for future environmental considerations. Photographs of this work are given in the Appendix.

It should be noted that there is no longer a threat of continued, compounded impact at this site as the former junction boxes have been eliminated.

ROC proposes additional investigative work to determine if there is potential for groundwater degradation from residual soil hydrocarbons and/or chlorides which are the *constituents of concern*, as outlined below.

Proposed Work Elements

1. Summarize information and data collected by ROC to date.
2. Summarize additional, publicly available regional and local hydrological information.
3. Conduct vertical and lateral delineation of residual soil petroleum hydrocarbons and chlorides. If warranted, install a monitor well 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.

I appreciate the opportunity to work with you and your staff on these projects. Please call either myself, at the number below, or Hack Conder (ROC) at 575-393-9174, 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: Larry Johnson, NMOCD Hobbs Office sent U.S. Certified Mail
w/ Return Receipt 7006 0710 0003 0305 3767,
Rice Operating Company

Figure 1 – BD O-23 location. The general topographic gradient and presumed water table gradient is toward the southeast.

RICE OPERATING COMPANY
JUNCTION BOX DISCLOSURE* REPORT

BOX LOCATION

SWD SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE	COUNTY	BOX DIMENSIONS - FEET		
							Length	Width	Depth
BD	vent O-23	O	23	21S	37E	Lea	excavated - plumbed straight through		

LAND TYPE: BLM ____ STATE ____ FEE LANDOWNER Delrose Scott OTHER ____

Depth to Groundwater 55 feet NMOCD SITE ASSESSMENT RANKING SCORE: 10

Date Started 5/12/2004 Date Completed 5/13/2004 OCD Witness No

Soil Excavated 12 cubic yards Excavation Length 8 Width 3 Depth 12 feet

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

FINAL ANALYTICAL RESULTS: Sample Date n/a Sample Depth n/a

Procure 5-point composite sample of bottom and 4-point composite sample of sidewalls. TPH, BTEX and Chloride laboratory test results completed by using an approved lab and testing procedures pursuant to NMOCD guidelines.

Sample Location	PID ppm	GRO mg/kg	DRO mg/kg	Chloride mg/kg
SIDEWALLS	All readings are attached.	XXX	XXX	XXX
BOTTOM		XXX	XXX	XXX
REMEDIATED		XXX	XXX	XXX

CHLORIDE FIELD TESTS

LOCATION	DEPTH (ft)	ppm
Vertical	8	1405
at Source	9	1753
	10	1665
	11	1570
	12	1830
15 ft North	8	2767
	9	2972
	10	3370

General Description of Remedial Action: Vertical delineation with a backhoe at this vent box yielded consistent chloride concentrations down to 12 ft BGS. Deeper excavation was not possible due to rock encountered at 13 ft. Vertical PID readings at the source also yielded elevated concentrations and the samples were visibly impacted by hydrocarbons (see attached results). Samples taken 15 ft north of the box also exhibited elevated chloride concentrations. The delineation trenches were backfilled with the excavated soil. An identification plate has been placed on the surface to mark the location of the former junction box for further consideration in the future. No samples from this site were taken to a laboratory for analysis. An identification plate has been placed on the surface where the junction was located for future consideration.

ADDITIONAL EVALUATION IS *MEDIUM* PRIORITY

enclosures: chloride graph, photos, PID results

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

SITE SUPERVISOR Joe Gatta SIGNATURE [signature] COMPANY RICE Operating Company

REPORT ASSEMBLED BY Kristin Farris Pope SIGNATURE [signature]

DATE 7/9/2004 TITLE Project Scientist

** This site is a "DISCLOSURE." It will be placed on a prioritized list of similar sites for further consideration.*

Figure 2 – BD O-23 Junction Box Disclosure Report

RICE OPERATING COMPANY
122 WEST TAYLOR
HOBBS, NEW MEXICO 88240
PHONE: (505) 393-9174 FAX: (505) 397-1471

VOC FIELD TEST REPORT FORM
MINI RAE PLUS CLASSIC PHOTOIONIZATION GAS DETECTOR

MODEL NO: PGM 761S
CALIBRATION GAS
GAS COMPOSITION: ISOBUTYLENE
AIR
LOT NO: 02-22-30
EXP. DATE: 11/20/04
METER READING
ACCURACY: 100.1

SERIAL NO: 104412
100 PPM
BALANCE
FILL DATE: 5/20/03 5.6
ACCURACY: +or-2%

SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE
BD	O-23	O	23	21	37

SAMPLE	PID RESULT	SAMPLE	PID RESULT
Source 5'	0		
Source 6'	180		
Source 7'	181		
Source 8'	164		
Source 9'	197		
Source 10'	231		
Source 11'	207		
Source 12	298		

I certify that I have calibrated the above instrument in accordance to the manufacture operation manual

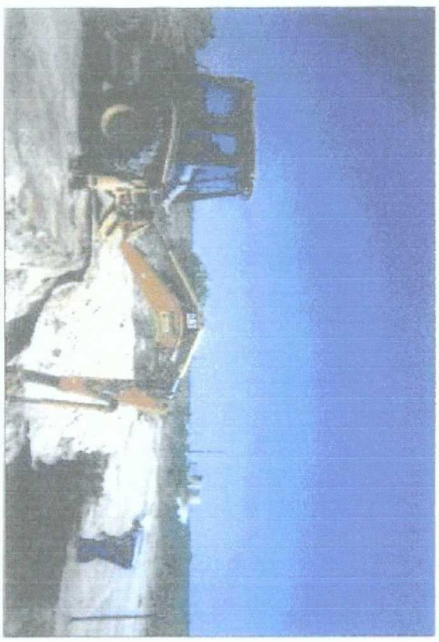
Joe Smith
Signature

5/12/04
Date

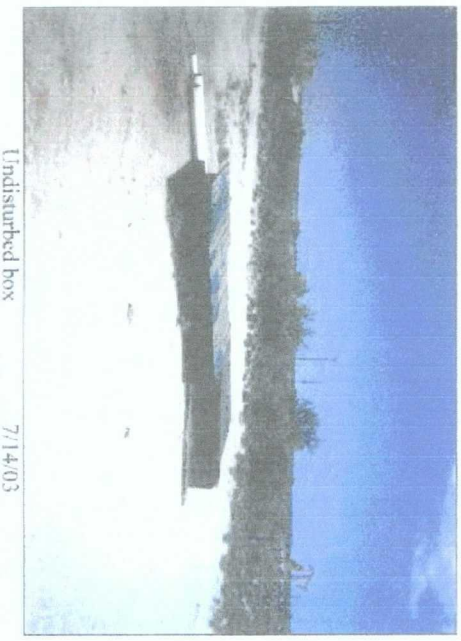
Figure 3 – PID (organic vapor) readings from initial evaluation of BD O-23 junction boxes.

APPENDIX – Photographs taken before and during junction box removal.

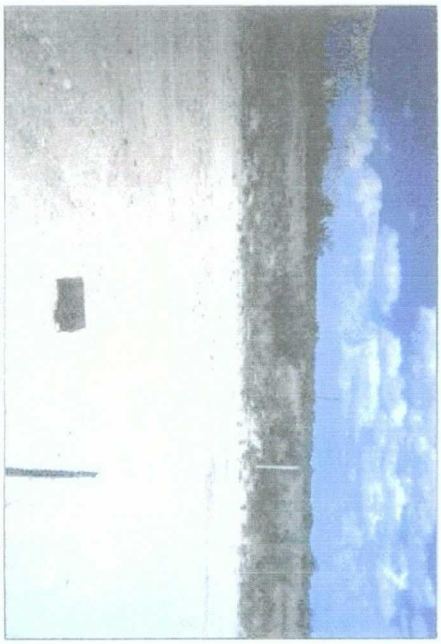
BD O-23 vent



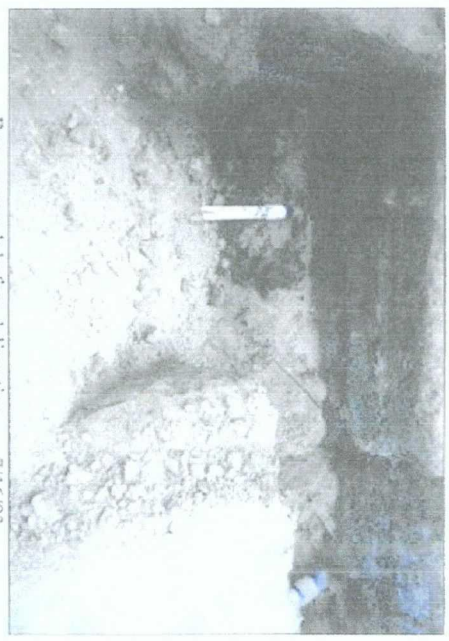
Vertical delineation 5/12/04



Undisturbed box 7/14/03



Identification plate



Box removed; before delineation 7/16/03