

1R - 426-04

WORKPLANS

Date:

7-15-11

Rice Environmental Consulting & Safety

P.O. Box 5630 Hobbs, NM 88241

Phone 575.393.4411 Fax 575.393.0293

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2011 JUL 18 A 11: 37

July 15th, 2011

Mr. Edward Hansen

New Mexico Energy, Minerals, & Natural Resources

Oil Conservation Division, Environmental Bureau

1220 S. St. Francis Drive

Santa Fe, New Mexico 87505

RE: ICP Report

Rice Operating Company – BD SWD System

BD M-26-1 (1R426-04): UL/M sec. 26 T21S R37E

Mr. Hansen:

RICE Operating Company (ROC) has retained Rice Environmental Consulting and Safety (RECS) to address potential environmental concerns at the above-referenced site in the BD Salt Water Disposal (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/usage basis.

Background and Previous Work

The site is located approximately 1 mile north-east of Eunice, New Mexico at UL/M sec. 26 T21S R37E as shown on the Site Location Map (Figure 1). NM OSE records indicate that groundwater will likely be encountered at a depth of approximately 40 +/- feet.

In 2003, ROC initiated work on the former BD M-26-1 junction box. The site was delineated using a backhoe to form a 30 ft x 30 ft x 12 ft deep excavation and soil samples were screened at regular intervals for both hydrocarbons and chlorides. From the excavation, the four-wall composite, the bottom composite and the remediated backfill were taken to a commercial laboratory for analysis. Laboratory tests of the four-wall composite showed a chloride reading of 1,900 mg/kg, negligible gasoline range organics (GRO) and diesel range organics (DRO), and negligible BTEX. The bottom composite showed a chloride laboratory reading of 851 mg/kg, a GRO reading of 114 mg/kg, and a DRO reading of 867 mg/kg. BTEX for the bottom composite showed negligible benzene and toluene, an ethyl benzene reading of 0.334 mg/kg, and a total xylene reading of 0.674 mg/kg. A 20 mil poly liner was placed at the bottom of the excavation. The excavated soil was blended on site and backfilled over the liner. Laboratory analysis of the blended backfill showed a chloride reading of 248 mg/kg, a GRO reading of 26 mg/kg, and a

DRO reading of 324 mg/kg. BTEX reading for the backfill showed negligible benzene, toluene, and ethyl-benzene. Total xylenes showed a reading of 0.070 mg/kg.

The area was contoured to the surrounding landscape and seeded. NMOCD was notified of potential groundwater impact on March 17th, 2003, and a junction box disclosure report was submitted to NMOCD with all the 2003 junction box closures and disclosures.

ROC proposed additional investigative work at the site to determine if there was a potential for groundwater degradation from residual chlorides and/or hydrocarbons at the site.

Proposed Work Elements

1. Conduct vertical and lateral delineation of residual soil hydrocarbons and chlorides from samples taken using a drill rig, hand auger, and/or backhoe
 - a. Vertical sampling will be conducted until the following criteria are met in the field.
 - i. Three samples in which the chloride concentration decreases and the third sample has a chloride concentration of ≤ 250 ppm; and,
 - ii. Three samples in which PID readings decrease and the third sample has a PID reading of ≤ 100 ppm; or,
 - iii. The sampling reaches the capillary fringe.
 - b. Lateral sampling will be conducted until the following criteria are met in the field.
 - i. A decrease is observed in chloride concentrations between lateral bores at similar depths; and,
 - ii. A chloride concentration of ≤ 250 ppm is observed in a lateral surface sample; or,
 - iii. Safety concerns impede further lateral delineation.
2. If warranted, install a monitor well to provide direct measurement of the potential groundwater impact at the site. (All monitor wells will be installed by EPA, NMOCD, and industry standards.)
3. Evaluate the risk of groundwater impact based on the information obtained.

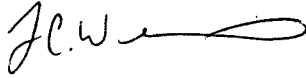
Initial ICP Investigative Results and Recommendations

As part of the Investigation and Characterization Plan approved by NMOCD on May 19th, 2011, seven soil bores (SB-1 through SB-7) were advanced through the former junction box site on May 23rd, 2011 and June 6th, 2011. RECS personnel field tested the soil for chlorides and screened in the field with a photo-ionization detector (PID). Representative samples from the bores were taken to a commercial laboratory for confirmation of chloride and hydrocarbon field numbers.

Based on the initial delineation results, RECS recommends the following: ROC will continue to delineate the soils surrounding the former junction box site and delineate groundwater quality through the installation of a near-source monitoring well. Additional monitoring wells may be required to fully delineate groundwater quality. After delineating both the soil and groundwater, ROC will submit a report with recommendations for a path forward.

ROC appreciates the opportunity to work with you on this project. Please call Hack Conder at (575) 393-9174 or me if you have any questions or wish to discuss the site.

Sincerely,

A handwritten signature in black ink, appearing to read 'J.C.W.' followed by a stylized flourish.

Lara Weinheimer
Project Scientist
RECS
(575) 441-0431

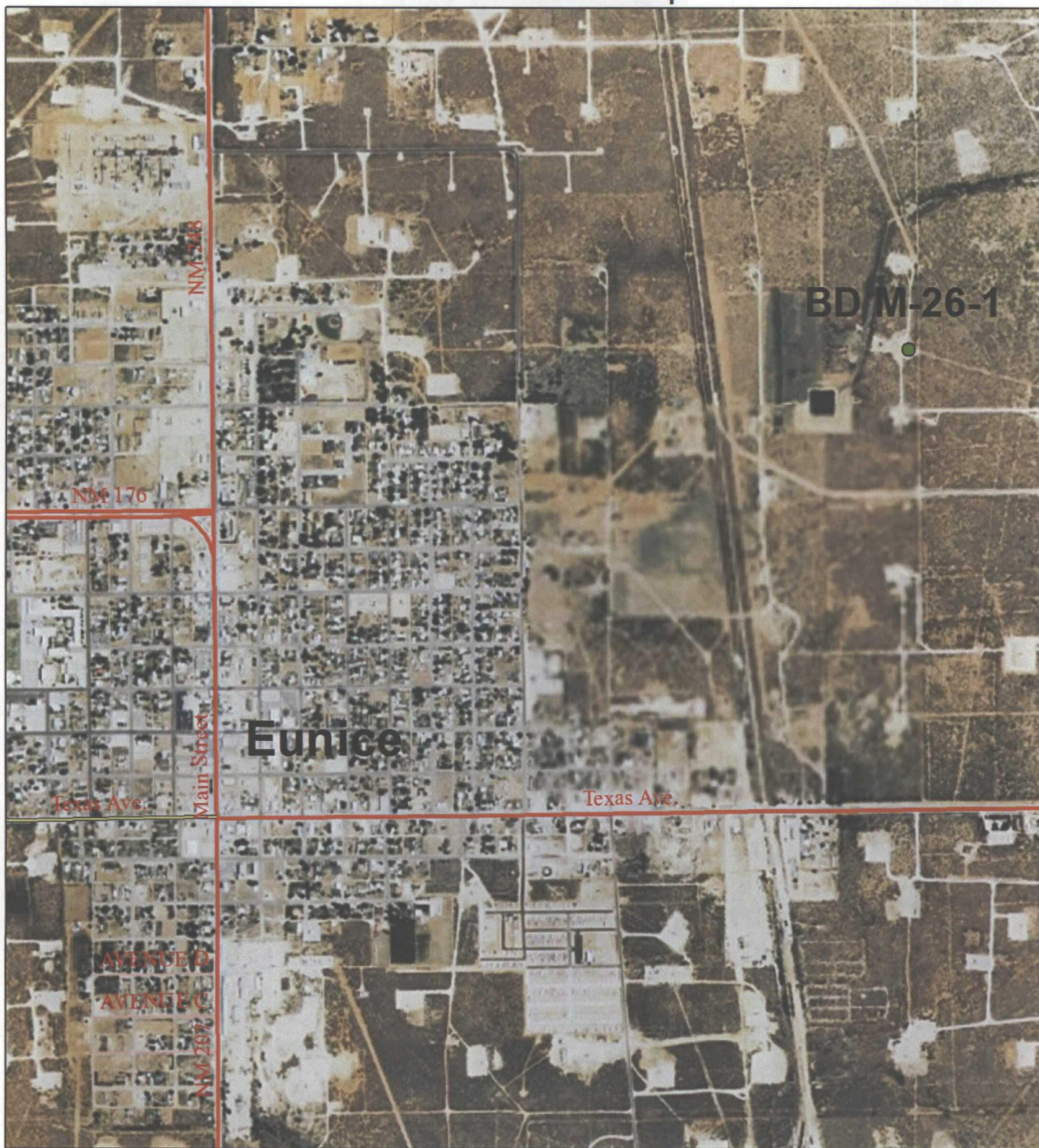
Attachments:

Figure 1 – Site location map

Figures

RICE Environmental Consulting and Safety (RECS)
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Phone 575.393.4411 Fax 575.393.0293

Site Location Map



BD M-26-1

LEGALS: UL/M sec. 26
T21S R37E

NMOCD Case #: 1R426-04

Figure 1



0 365 730 1,460
Feet

Drawing date: 7-1-11
Drafted by: L. Weinheimer

Hansen, Edward J., EMNRD

From: Hack Conder [hconder@riceswd.com]
Sent: Monday, September 19, 2011 4:50 PM
To: Hansen, Edward J., EMNRD
Subject: FW: BD M-26-1 SB installation plat
Attachments: BD M-26-1 Soil bore installation.jpg

Mr. Hansen

Attached is the soil data from M-26-1 , We have drilled seven bores to date with further delineation required in the east and west direction.

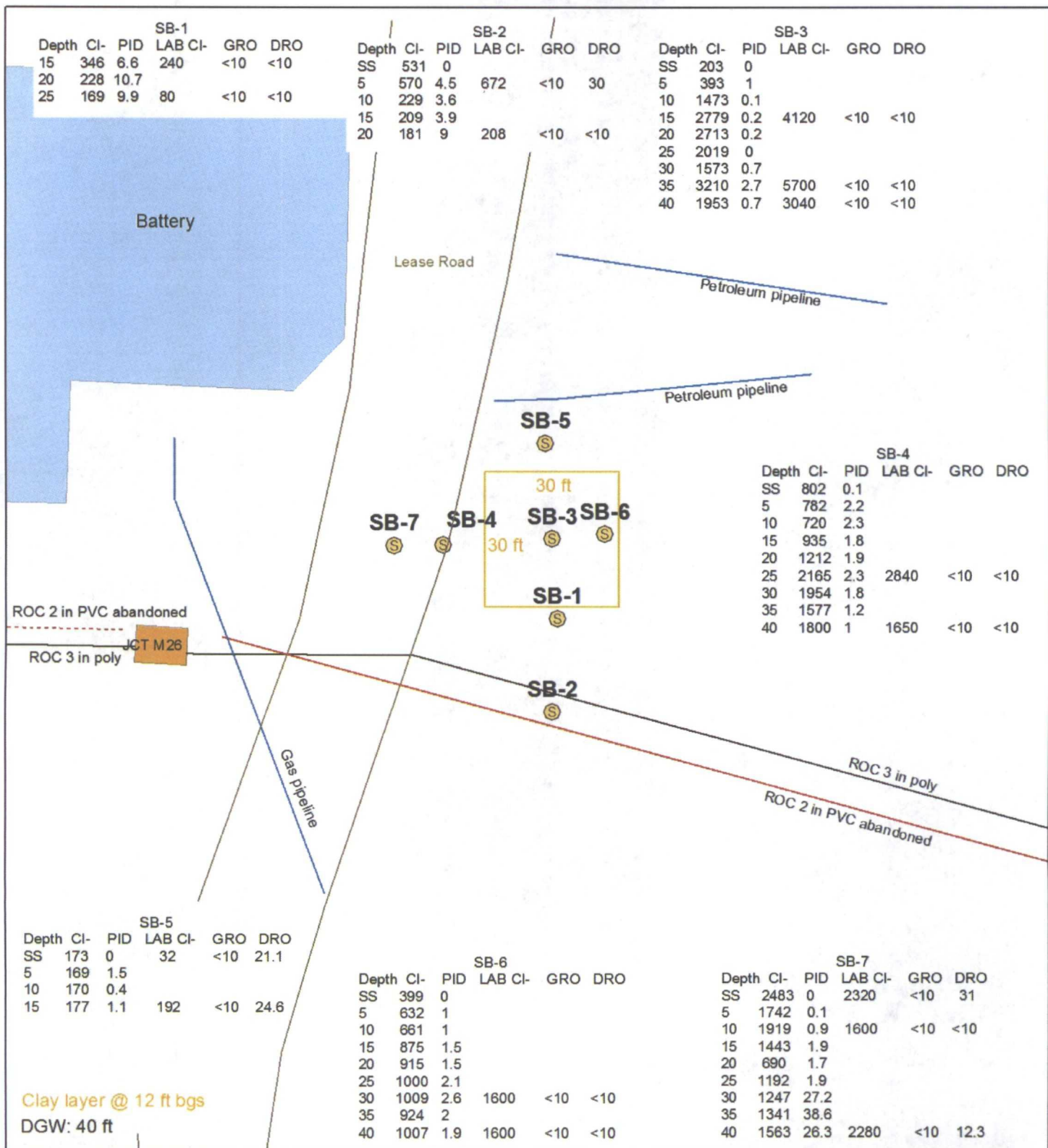
If I can give you any other information please let me know.

Thanks Hack Conder

From: Lara Weinheimer [<mailto:lweinheimer@rice-ecs.com>]
Sent: Monday, September 19, 2011 4:44 PM
To: Hack Conder
Subject: BD M-26-1 SB installation plat

Lara Weinheimer
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Soil bore installation



BD M-26-1

**LEGALS: UL/M sec. 26
T21S R37E**

NMOCD Case #: 1R426-04



0 10 20 40
Feet

Drawing date: 5-31-11
Drafted by: L. Weinheimer