

1R - 426-16

## REPORTS

DATE:

9-30-13

# Rice Environmental Consulting & Safety

P.O. Box 2948, Hobbs, NM 88241

Phone 575.393.2967

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2013 OCT -3 P 1:41

**September 30<sup>th</sup>, 2013**

**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 F-29 (1R426-16): UL/F sec. 29 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 ownership/usage basis.

## **Background and Previous Work**

The site is located approximately 1.5 miles north-west of Eunice, New Mexico at UL/F sec. 29 T21S R37E as shown on the Site Location Map and Geographical Location Map (Figure 1 and 2). NM OSE records indicate that groundwater will likely be encountered at a depth of approximately 86 +/- feet. However, soil bore installation at the site showed groundwater located at 100 +/- feet.

In 2003, ROC initiated work on the former BD F-29 junction box. The site was delineated using a backhoe to form a 25 ft x 10 ft x 14 ft deep excavation and soil samples were screened at regular intervals for both hydrocarbons and chlorides. From the excavation, the four-wall composite and the bottom composite were taken to a commercial laboratory for analysis. Laboratory tests of the four-wall composite showed a chloride reading of 1,260 mg/kg, a gasoline range organics (GRO) readings of non-detect and a diesel range organics (DRO) reading of 43.2 mg/kg. The bottom composite showed a chloride laboratory reading of 4,080 mg/kg, a GRO reading of non-detect and a DRO reading of 48.5 mg/kg. BTEX readings for both samples were non-detect. The site was backfilled, the area was contoured to the surrounding landscape, and an identification plate was placed on the surface of the site to mark its location for future environmental considerations. NMOCD was notified of potential groundwater impact on March 26<sup>th</sup>,

2003 and a junction box disclosure report was submitted to NMOCD with all the 2003 junction box closures and disclosures.

An Investigation and Characterization Plan (ICP) was submitted to NMOCD on July 2<sup>nd</sup>, 2013 and approved the same day. The BD F-29 site is located 25 ft south from the BD F-29-1 site. As such, the two sites were delineated together. A total of 18 soil bores were installed at the two sites (Figures 3-6). As the bores were advanced, soil samples were taken at regular intervals and field tested for chlorides and hydrocarbons. Representative samples from each bore were taken to a commercial laboratory for analysis.

The interior bores (SB 1-9, 11 and 14-16) located close to the former boxes, show evidence of elevated chlorides throughout each bore. Although the laboratory chloride readings decrease with depth in each bore, the bottom samples at 95 ft bgs are still above 250 mg/kg. The most outer bores (SB 12, 13, 17 and 18) at the two sites show laboratory chloride readings that decrease to below 250 mg/kg before reaching the capillary fringe. SB-12 returned a laboratory chloride reading of 160 mg/kg at 35 ft bgs. SB-13 returned a laboratory chloride reading of 176 mg/kg at 45 ft bgs. SB-17 returned a laboratory chloride reading of 128 mg/kg at 35 ft bgs and SB-18 returned a laboratory chloride reading of 160 mg/kg at 55 ft bgs. GRO and DRO readings were non-detect in all bores at all depths.

Given the amount of data generated from the soil bore delineation of the sites, ROC will analyze the data and once completed will submit a Corrective Action Plan (CAP) to NMOCD. The CAP will include corrective action for the vadose zone and possible proposed MW locations.

RECS appreciates the opportunity to work with you on this project. Please call Hack Conder at (575) 393-2967 or me if you have any questions or wish to discuss the site.

Sincerely,



Lara Weinheimer  
Project Scientist  
RECS  
(575) 441-0431

Attachments:

- Figure 1 – Site Location Map
- Figure 2 – Geographical Location Map
- Figure 3-6 – Soil Bore Installation Maps



# Figures

**RICE Environmental Consulting and Safety (RECS)**  
P.O. Box 2948, Hobbs, NM 88241  
Phone 575.393.2967

# Site Location Map



Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



***BD F-29***

**LEGALS: UL/F sec. 29  
T21S R37E**

**NMOCD Case #: 1R426-16**

**Figure 1**



0 0.15 0.3 0.6  
Miles

Drawing date: 4-14-11  
Drafted by: L. Weinheimer



# Geographical Location Map



***BD F-29***

**LEGALS: UL/F sec. 29  
T21S R37E**

**NMOCD Case #: 1R426-16**

**Figure 2**

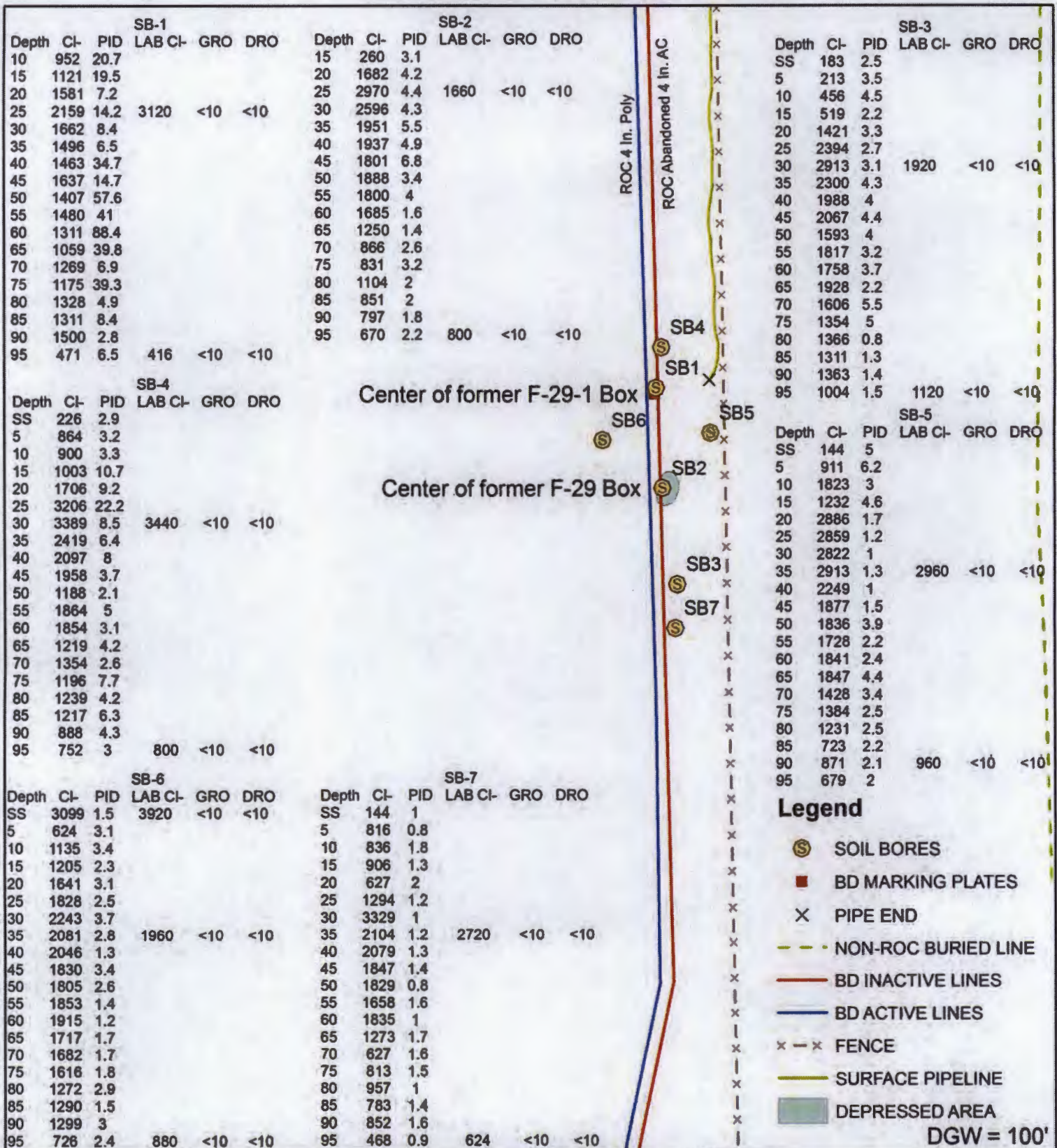


0 195 390 780  
Feet

Drawing date: 9/18/13  
Drafted by: L. Weinheimer

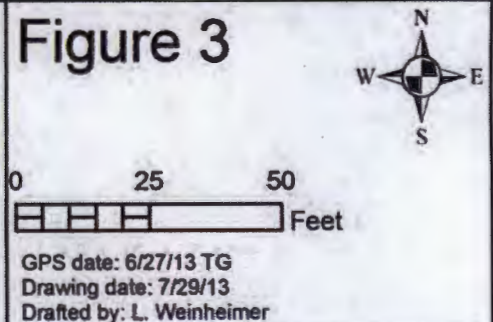


# Soil Bore Installation



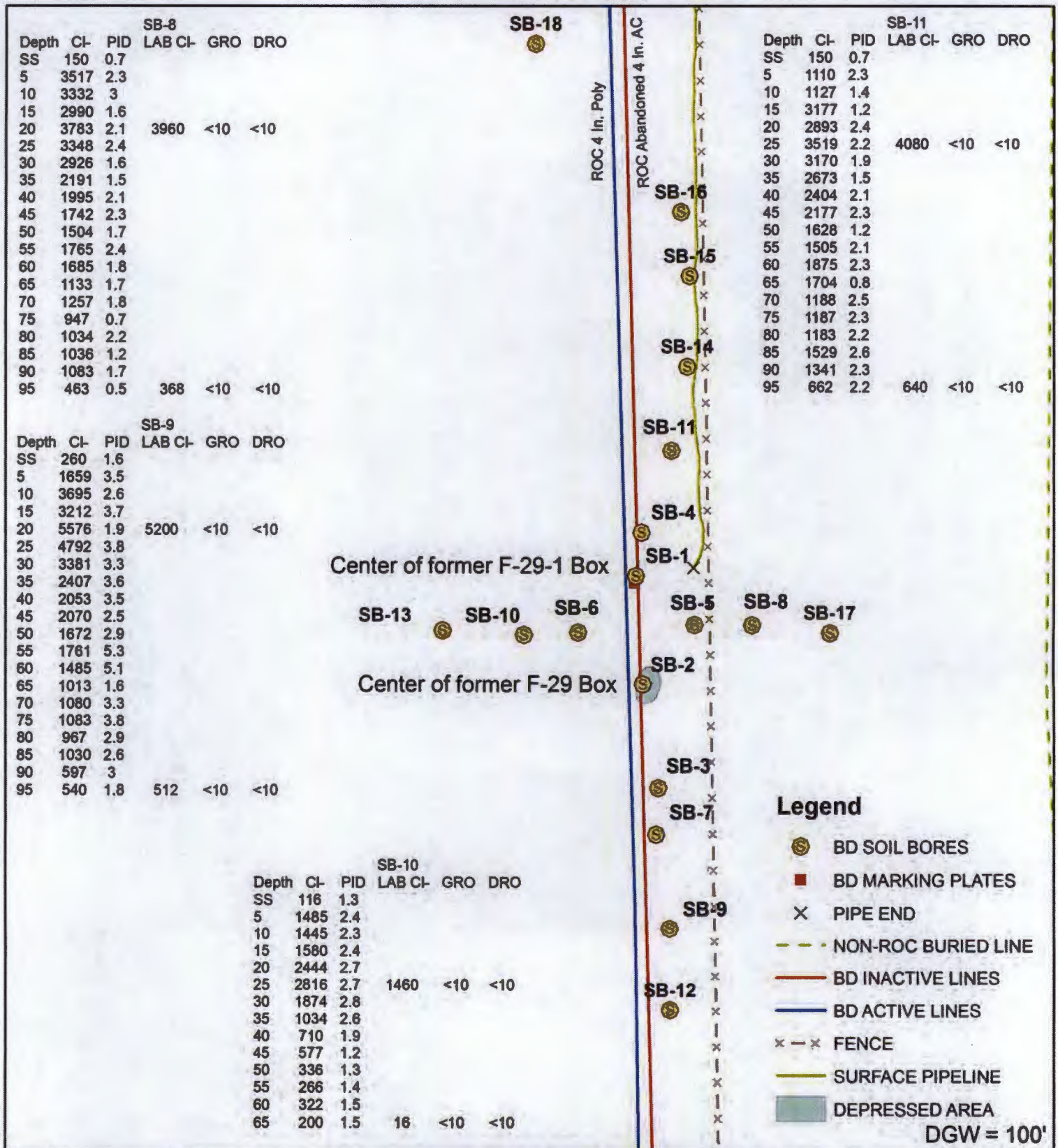
**BD F-29  
& F-29-1**  
 NMOCD #: (1R426-16)  
 (1R426-15)  
 UL F SECTION 29  
 T-21-S R-37-E  
 LEA COUNTY, NM

**Figure 3**



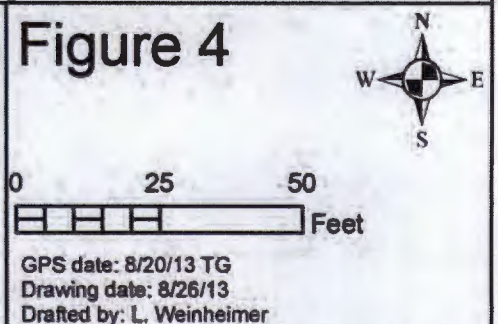


# Soil Bore Installation



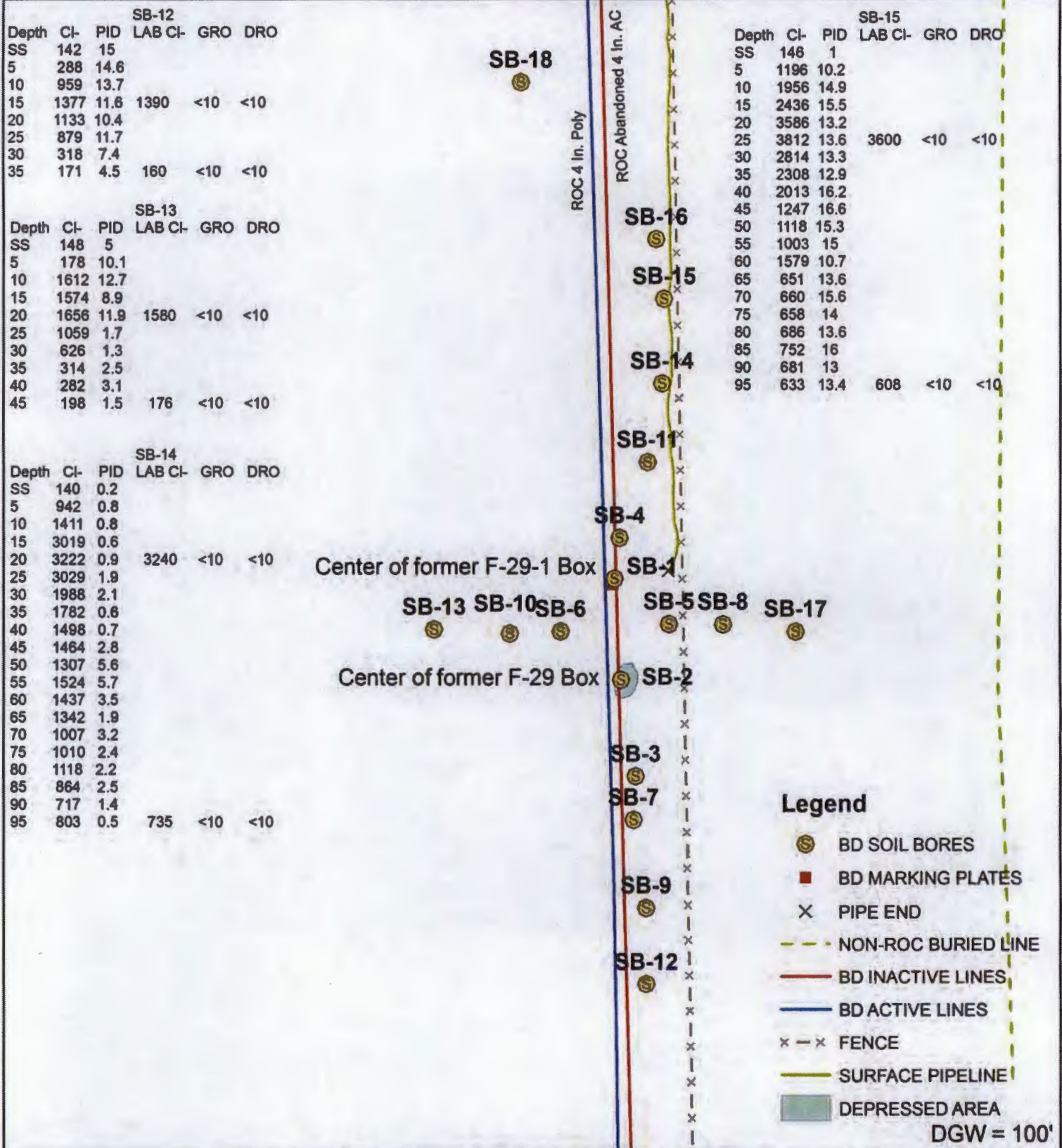
**BD F-29  
& F-29-1**  
 NMOCD #: (1R426-16)  
 (1R426-15)  
 UL F SECTION 29  
 T-21-S R-37-E  
 LEA COUNTY, NM

**Figure 4**



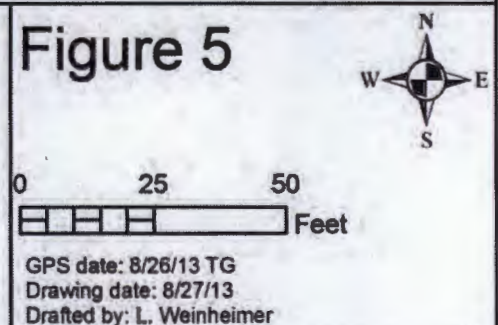


# Soil Bore Installation



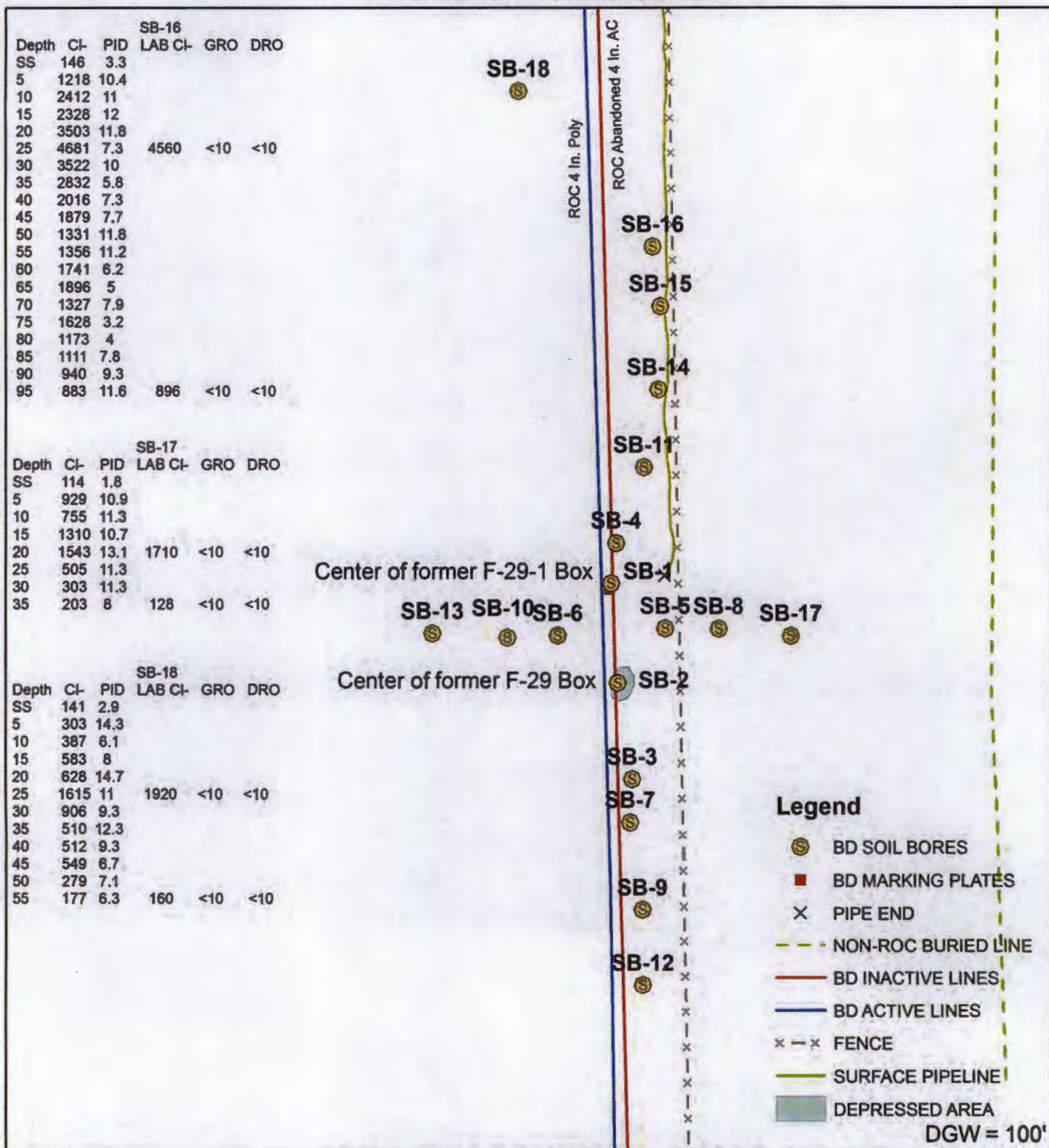
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 LEA COUNTY, NM

**Figure 5**





# Soil Bore Installation



**BD F-29  
& F-29-1**  
 NMOCD #: (1R426-16)  
 (1R426-15)  
 UL F SECTION 29  
 T-21-S R-37-E  
 LEA COUNTY, NM

**Figure 6**

