

1R - 426-15

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 30th, 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-29-1 (1R426-15): 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-29-1 junction. The site was delineated using a backhoe to form a 20 ft x 10 ft x 6 ft deep excavation and soil samples were screened at regular intervals for both hydrocarbons and chlorides. From the excavation, the bottom composite was taken to a commercial laboratory for analysis. Laboratory testing on the bottom composite showed a chloride laboratory reading of 1,060 mg/kg, a Gasoline Range Organics (GRO) reading of non-detect and a Diesel Range Organics (DRO) reading of 26.6 mg/kg. BTEX readings returned a result of 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 26th, 2003 and a junction box closure 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 2nd, 2013 and approved the same day. The BD F-29-1 site is located 25 ft north from the BD F-29 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.

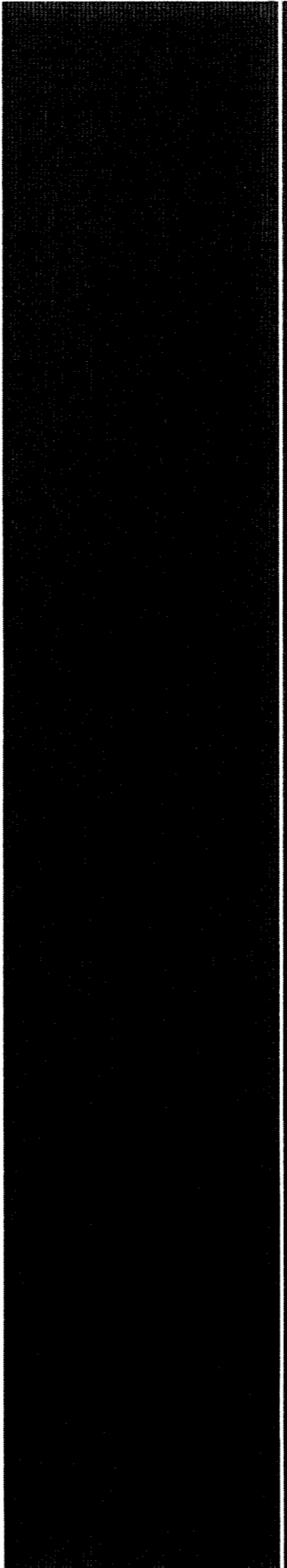
Sincerely,



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

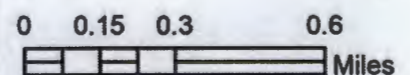


BD F-29-1

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

NMOCD Case #: 1R426-15

Figure 1



Drawing date: 1-3-12
Drafted by: L. Weinheimer

Geographical Location Map

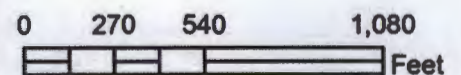


BD F-29-1

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

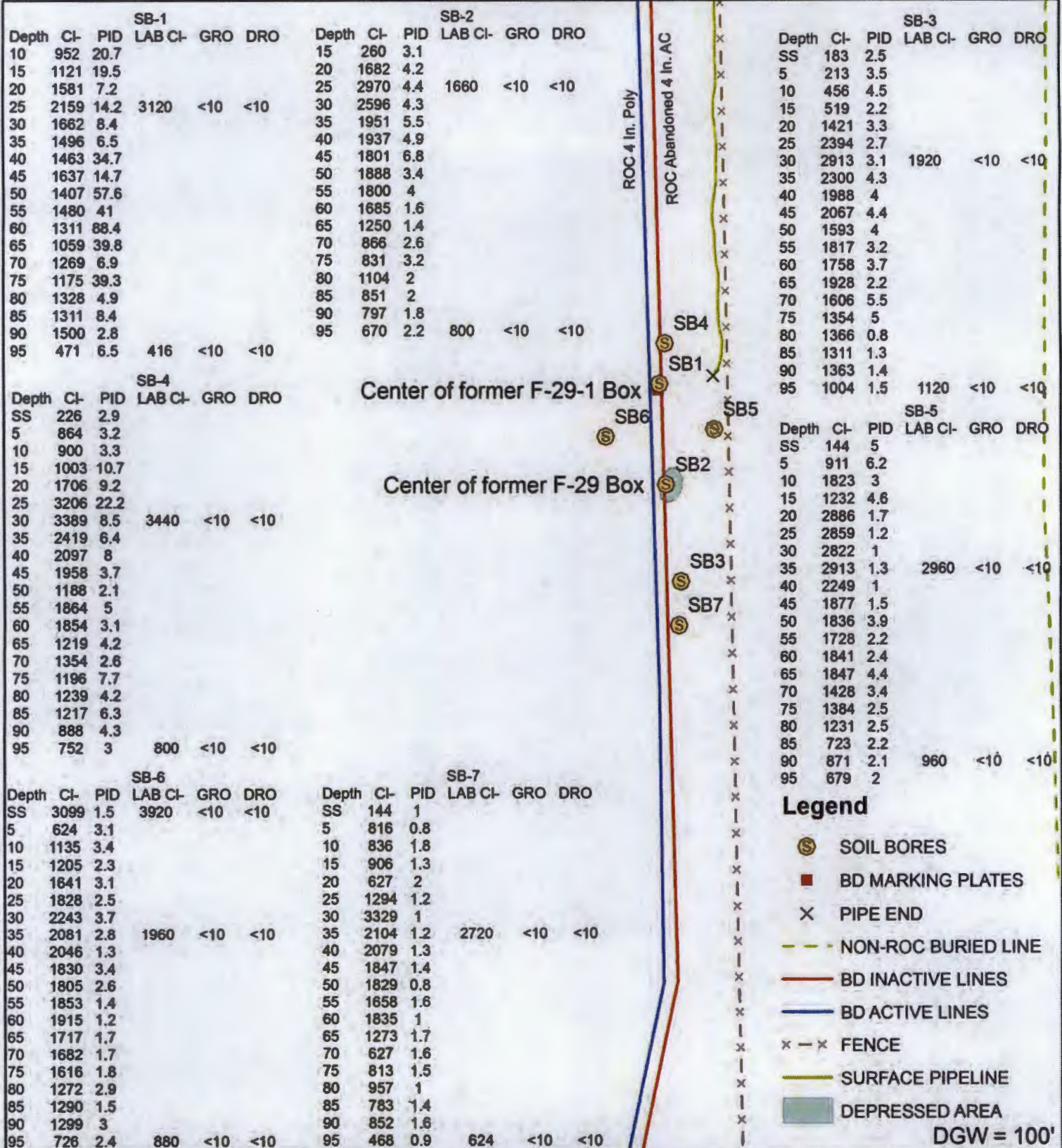
NMOCD Case #: 1R426-15

Figure 2



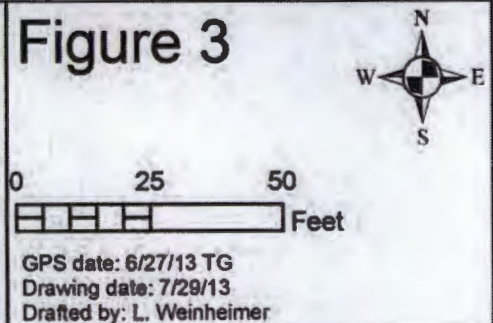
Drawing date: 1-3-12
Drafted by: L. Weinheimer

Soil Bore Installation

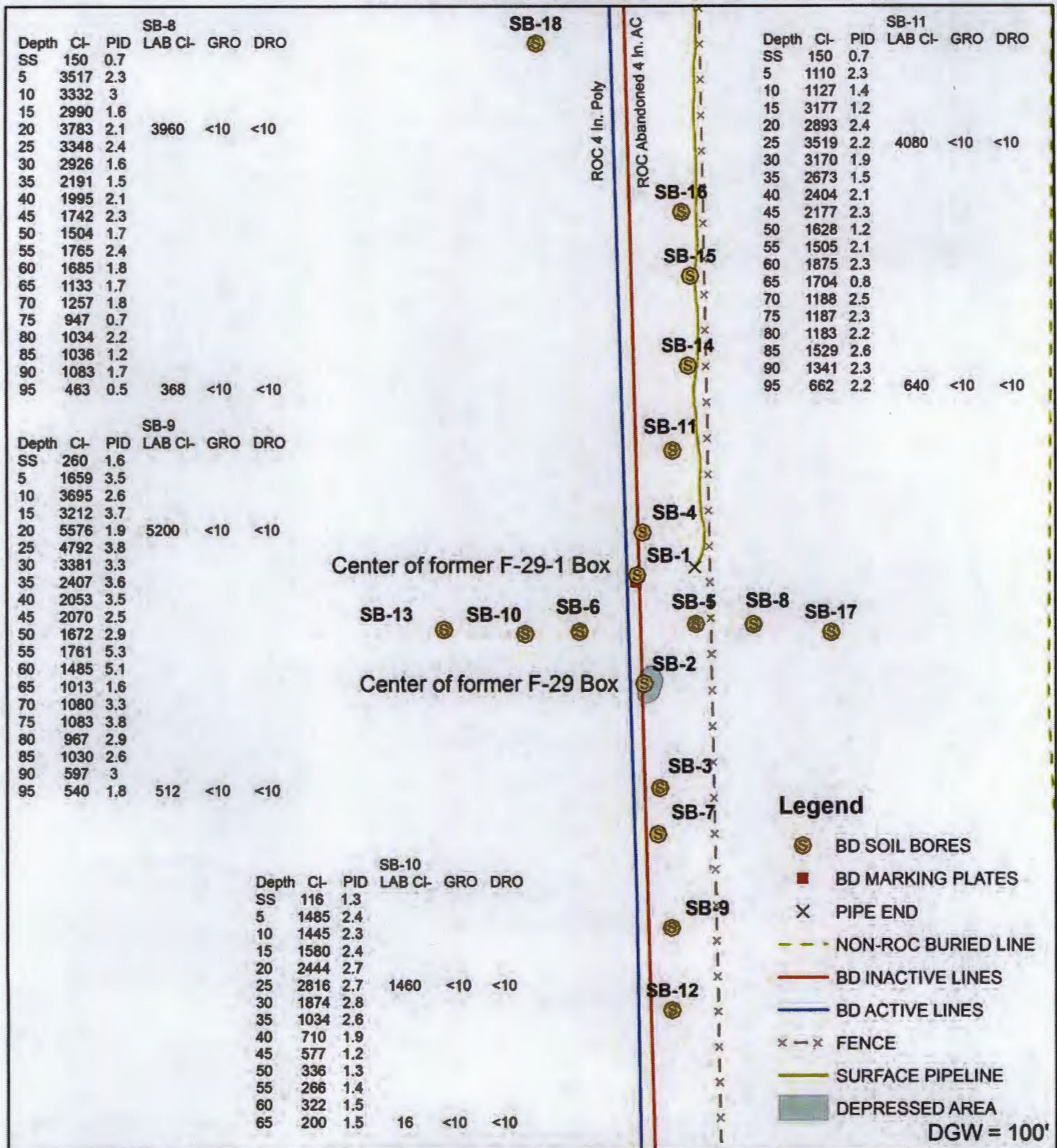


**BD F-29
& F-29-1**
 NMOCD #: (1R426-16)
 (1R426-15)
 UL F SECTION 29
 T-21-S R-37-E
 LEA COUNTY, NM

Figure 3

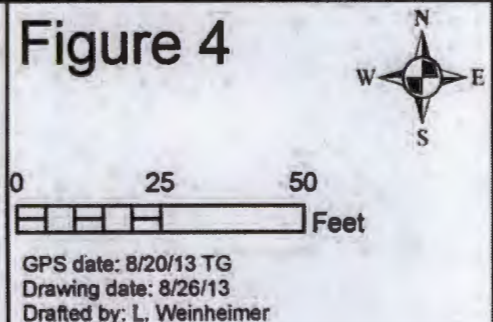


Soil Bore Installation

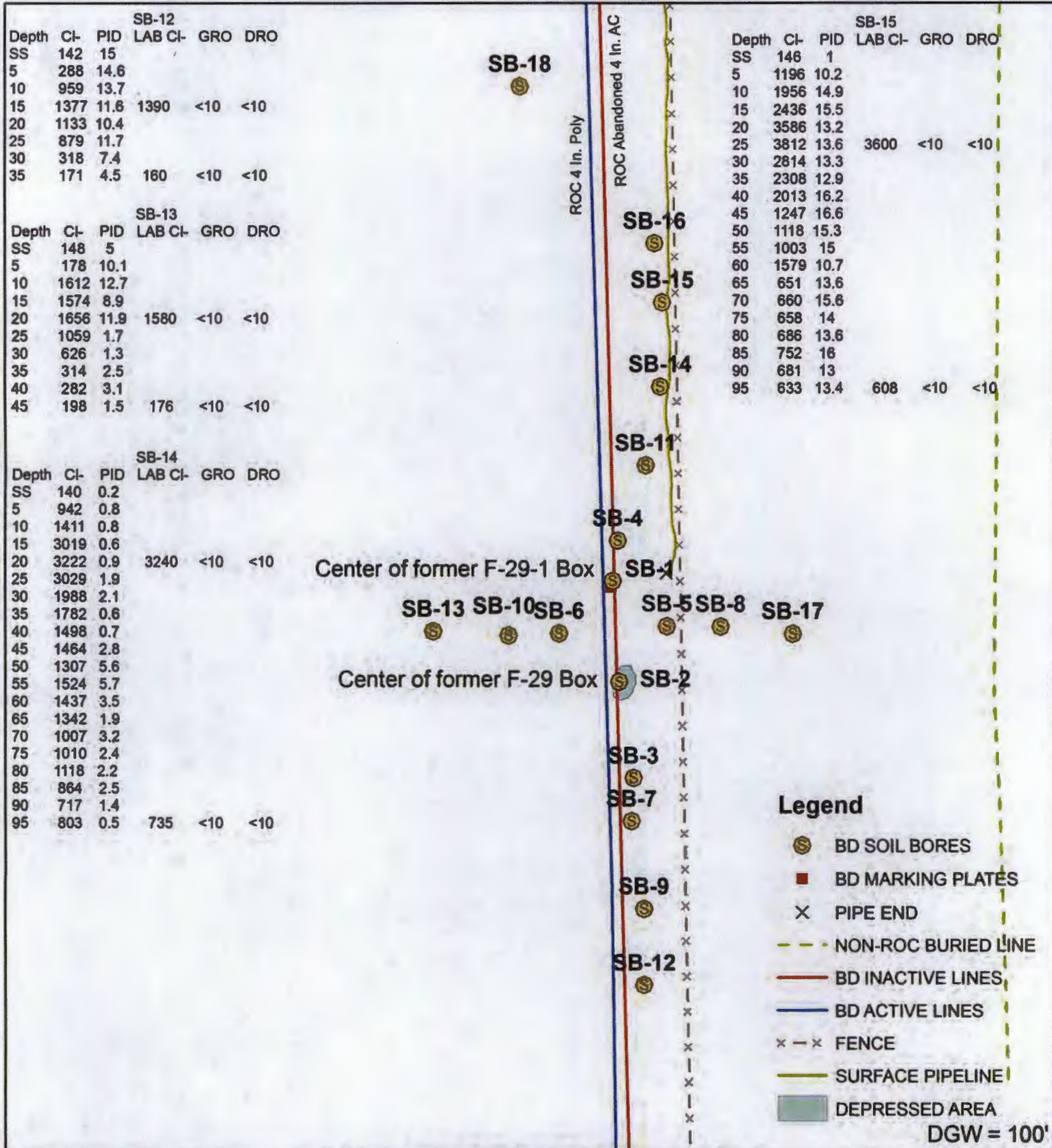


**BD F-29
& F-29-1**
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 LEA COUNTY, NM

Figure 4

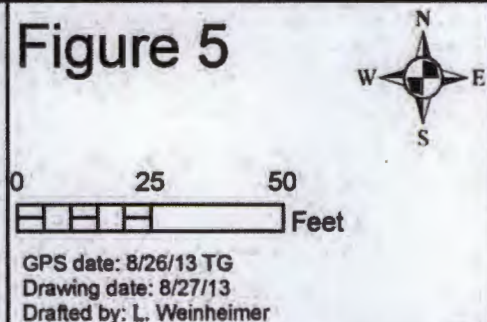


Soil Bore Installation



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Figure 5



Soil Bore Installation

SB-16					
Depth	CI-	PID	LAB CI-	GRO	DRO
SS	146	3.3			
5	1218	10.4			
10	2412	11			
15	2328	12			
20	3503	11.8			
25	4681	7.3	4560	<10	<10
30	3522	10			
35	2832	5.8			
40	2016	7.3			
45	1879	7.7			
50	1331	11.8			
55	1356	11.2			
60	1741	6.2			
65	1896	5			
70	1327	7.9			
75	1628	3.2			
80	1173	4			
85	1111	7.8			
90	940	9.3			
95	883	11.6	896	<10	<10

SB-17					
Depth	CI-	PID	LAB CI-	GRO	DRO
SS	114	1.8			
5	929	10.9			
10	755	11.3			
15	1310	10.7			
20	1543	13.1	1710	<10	<10
25	505	11.3			
30	303	11.3			
35	203	8	128	<10	<10

SB-18					
Depth	CI-	PID	LAB CI-	GRO	DRO
SS	141	2.9			
5	303	14.3			
10	387	6.1			
15	583	8			
20	628	14.7			
25	1615	11	1920	<10	<10
30	906	9.3			
35	510	12.3			
40	512	9.3			
45	549	6.7			
50	279	7.1			
55	177	6.3	160	<10	<10

Center of former F-29-1 Box

Center of former F-29 Box

ROC 4 In. Poly

ROC Abandoned 4 In. AC

Legend

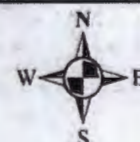
- BD SOIL BORES
- BD MARKING PLATES
- PIPE END
- NON-ROC BURIED LINE
- BD INACTIVE LINES
- BD ACTIVE LINES
- FENCE
- SURFACE PIPELINE
- DEPRESSED AREA

DGW = 100'



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& F-29-1**
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 LEA COUNTY, NM

Figure 6



0 25 50
 Feet

GPS date: 8/26/13 TG
 Drawing date: 8/27/13
 Drafted by: L. Weinheimer