

1R - 426-281

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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CERTIFIED MAIL
RETURN RECEIPT NO. 7008 1140 0001 3070 5764

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 G-23 EOL (1R426-281): UL/G sec. 23 T22S R37E
(formerly BD B-23 EOL)

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.

The site was previously referred to as the BD B-23 EOL. However, GIS mapping shows the site to be located within unit letter G (Figure 1). To reflect the geographical location of the site, the name has been changed to the BD G-23 EOL. All correspondences will reference BD G-23 EOL.

Background and Previous Work

The site is located approximately 4 miles southeast of Eunice, New Mexico at UL/G sec. 23 T22S R37E as shown on the Site Location Map (Figure 2). Groundwater at this site is located at a depth of approximately 58 +/- feet.

In 2010, ROC initiated work on the former BD G-23 EOL junction box. The former junction box contained a boot. The site was delineated using a backhoe to form a 25 ft x 10 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 backfill were taken to a commercial laboratory for analysis. Laboratory tests of the four-wall composite showed a chloride reading of 3,320 mg/kg, negligible gasoline range organics (GRO) and a diesel range organics (DRO). The bottom composite showed a chloride laboratory reading of 9,520 mg/kg and negligible GRO and DRO readings. The soil was blended on site and a sample

taken to a commercial laboratory for analysis. Laboratory analysis of the blended backfill showed a chloride reading of 4,560 mg/kg and negligible GRO and DRO readings. The blended backfill was returned to the excavation to 5 ft below ground surface (bgs). At 5-4 ft bgs, a 1 foot clay layer was installed and a clay compaction test was performed on March 1st, 2010. The remaining backfill was hauled to a NMOCD approved facility for disposal. The remaining excavation was backfilled with clean, imported soil to ground surface.

The area was contoured to the surrounding landscape, seeded, 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 August 4th, 2010, and a junction box disclosure report was submitted to NMOCD with all the 2010 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, six soil bores (SB-1 through SB-6) 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 submits the following: ROC will delineate groundwater quality surrounding the former junction box through the installation of a near-source monitoring well. Additional monitoring wells may be required to fully delineate groundwater quality. After delineating 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,

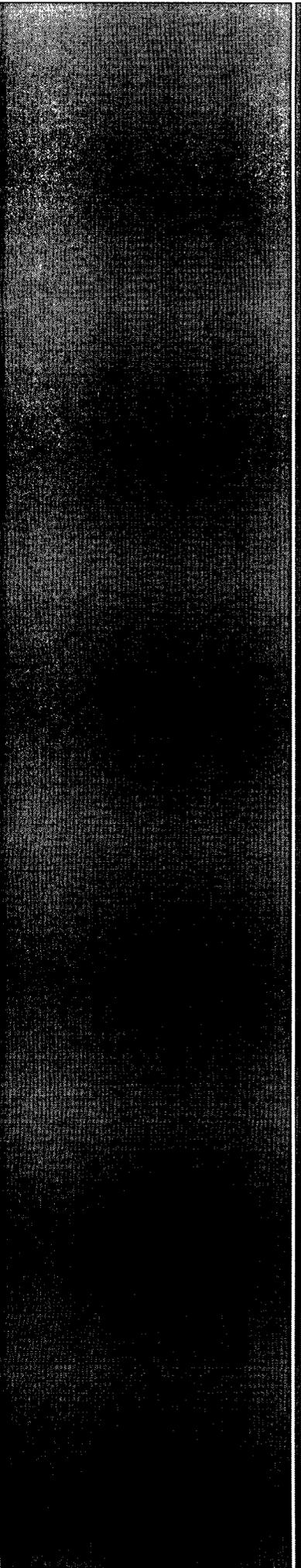
A handwritten signature in black ink, appearing to read 'L.W.' followed by a stylized flourish.

Lara Weinheimer
Project Scientist
RECS
(575) 441-0431

Attachments:

Figure 1 – Geographical location map

Figure 2 – Site location map



Figures

RICE Environmental Consulting and Safety (RECS)
P.O. Box 5630 Hobbs, NM 88241
Phone 575.393.4411 Fax 575.393.0293

Geographical Location Map

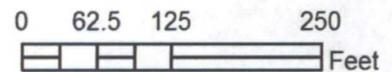


BD G-23 EOL

LEGALS: UL/G sec. 23
T22S R37E

NMOCD Case # : 1R426-281

Figure 1



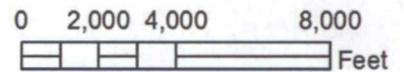
Drawing date: 6-28-11
Drafted by: L. Weinheimer

Site Map



BD G-23 EOL
LEGALS: UL/G sec. 23
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Figure 2



Drawing date: 5.2.11
Drafted by: L. Weinheimer

Hansen, Edward J., EMNRD

From: Hack Conder [hconder@riceswd.com]
Sent: Tuesday, September 20, 2011 2:03 PM
To: Hansen, Edward J., EMNRD
Cc: Lara Weinheimer; Katie Jones
Subject: FW: BD G-23 EOL soil bore plat
Attachments: BD G-23 EOL Soil bore installation.jpg

Mr. Hansen ,

Attached is the soil data from the G-23 EOL , this site is enclosed in all four direction by either pipelines or facilities. We are evaluating options for further delineation.

Thanks Hack

From: Lara Weinheimer [<mailto:lweinheimer@rice-ecs.com>]
Sent: Tuesday, September 20, 2011 10:52 AM
To: Hack Conder
Subject: BD G-23 EOL soil bore plat

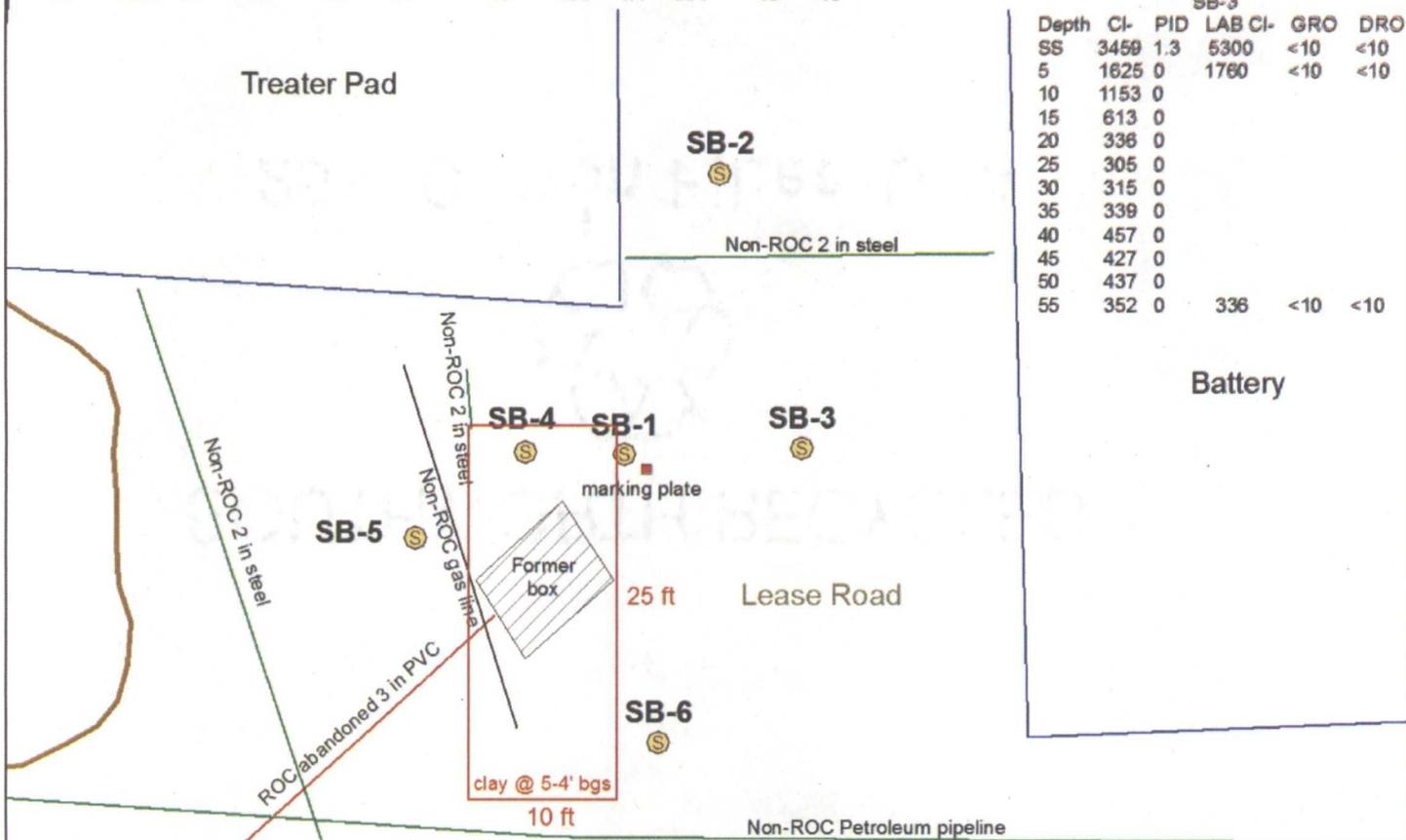
Lara Weinheimer
Project Scientist
Rice Environmental Consulting & Safety
122 W. Taylor
Hobbs, NM 88240
(575) 441-0431

Soil bore installation

SB-1					
Depth	CI-	PID	LAB CI-	GRO	DRO
15	6687	23.7	8200	<10	<10
20	2839	9.3			
25	2181	3.6			
30	1749	1.7			
35	2294	0			
40	1055	0			
45	752	0			
50	570	0			
55	289	4.4	160	<10	<10

SB-2									
Depth	CI-	PID	LAB CI-	GRO	DRO	B	T	E	X
SS	201	0							
5	201	0							
10	323	0							
15	918	0							
20	1132	0.7	1420	<10	<10				
25	424	12							
30	193	213	112	<10	26.9	0.113	0.132	0.119	0.499
35	168	24.9							
40	183	1.4	304	<10	<10				

SB-3					
Depth	CI-	PID	LAB CI-	GRO	DRO
SS	3459	1.3	5300	<10	<10
5	1625	0	1760	<10	<10
10	1153	0			
15	613	0			
20	336	0			
25	305	0			
30	315	0			
35	339	0			
40	457	0			
45	427	0			
50	437	0			
55	352	0	336	<10	<10



SB-4					
Depth	CI-	PID	LAB CI-	GRO	DRO
SS	168	2.7			
5	450	3.1			
10	3574	4.4			
15	8488	1.1	12800	<10	<10
20	2850	1			
25	5998	1			
30	2812	1			
35	4232	1.1			
40	3429	1.1			
45	2455	1			
50	1268	0.2			
55	2613	0	4000	<10	<10

SB-5					
Depth	CI-	PID	LAB CI-	GRO	DRO
SS	141	0.1			
5	773	0.8			
10	2468	0.9			
15	7881	0.8			
20	8823	0.9	10200	<10	<10
25	2136	1			
30	1378	0.3			
35	842	0.2			
40	625	0.8			
45	368	0.1			
50	210	0.1	544	<10	<10

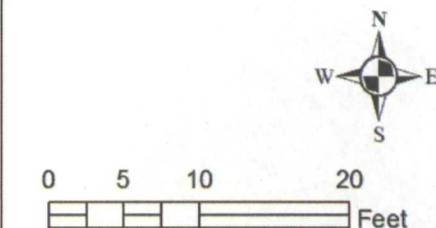
SB-6					
Depth	CI-	PID	LAB CI-	GRO	DRO
SS	167	0			
5	295	0			
10	1800	0			
15	1919	0	2560	<10	<10
20	446	0			
25	252	0			
30	205	0	192	<10	<10

The marking plat is 10 ft northeast of the former junction box site

DGW: 59 ft



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Drawing date: 6.14.11
 Drafted by: L. Weinheimer