

WORKPLANS

Date: 10-1713

Rice Environmental Consulting & Safety

P.O. Box 2948, Hobbs, NM 88241 Phone 575.393.2967

RECEIVED OCD

CERTIFIED MAIL RETURN RECEIPT NO. 7008 1140 0001 3072 4802 2013 CCT 21 P 1:55

October 17th, 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: Corrective Action Plan (CAP) Rice Operating Company – BD SWD System BD F-29 (1R426-16) 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 sites 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 BD F-29 site is located 25 ft south from the BD F-29-1 site. As such, the two sites were delineated together. The two sites are located approximately 1.5 miles northwest 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). Soil bore installation at the sites show groundwater to be located at 100 +/- feet.

BD F-29 Backhoe Delineation

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 26th, 2003 and a junction box disclosure report was submitted to NMOCD with all the 2003 junction box closures and disclosures.

BD F-29-1 Backhoe Delineation

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 GRO reading of non-detect and a 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.

Investigation and Characterization Plan (ICP)

An ICP was submitted for each site on July 2nd, 2013 and approved the same day. A total of 18 soil bores were installed at the two sites (Figure 3). 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 (Appendix A). The interior bores (SB 1-9, 11 and 14-16) located close to the former boxes, showed 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 showed 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 128 mg/kg at 35 ft bgs and SB-18 returned a laboratory chloride reading of 160 mg/kg at 35 ft bgs and SB-18 returned a laboratory chloride reading of 160 mg/kg at 35 ft bgs and SB-18 returned a laboratory chloride reading of 160 mg/kg at 35 ft bgs. GRO and DRO readings were non-detect in all bores at all depths.

On September 30th, 2013, an ICP Report was submitted for each site with maps showing the locations of each soil bore and its representative data.

Corrective Action Plan

Based on the soil bore installation data, RECS recommends that ROC install a 20-mil reinforced poly liner measuring 247 ft x 106 ft at a depth of approximately 4-5 ft bgs (Figure 3). The liner will extend 5 ft beyond the furthest soil bores, and will provide a barrier that will inhibit the downward migration of chlorides to groundwater. The soils

placed above the liner will have a laboratory chloride reading no greater than 500 mg/kg and a field PID reading below 100 ppm. Excavated soil will be evaluated for use as backfill and any soils requiring disposal will be properly disposed of at a NMOCD approved facility. Upon completion of backfilling, the site will be seeded with a native vegetative mix and soil amendments will be added as necessary. Vegetation provides an infiltration barrier for the site, since plants capture water through their roots thereby reducing the amount of water traveling through the vadose zone to groundwater.

In order to determine what affect the residual chlorides may have had on the groundwater quality below the site, RECS recommends that ROC install a near-source monitor well (MW-1) located just outside the liner. To determine if there is an up-gradient source of contaminates coming onto the site, MW-2 will be installed approximately 130 ft up-gradient of the two sites. The monitor wells will be installed after the liner installation is completed. The monitor wells will be sampled quarterly. Once the monitor wells at the site have been analyzed for chloride and TPH readings, ROC will either submit a groundwater remedy to NMOCD to address groundwater quality at the site or submit a 'remediation termination' request for site closure.

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.

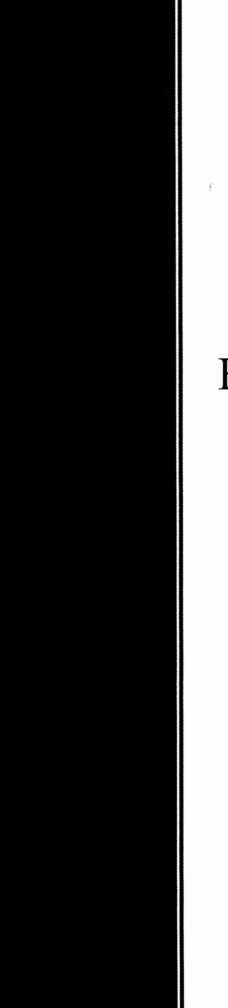
Sincerely,

ACW

Lara Weinheimer Project Scientist RECS (575) 441-0431

Attachments:

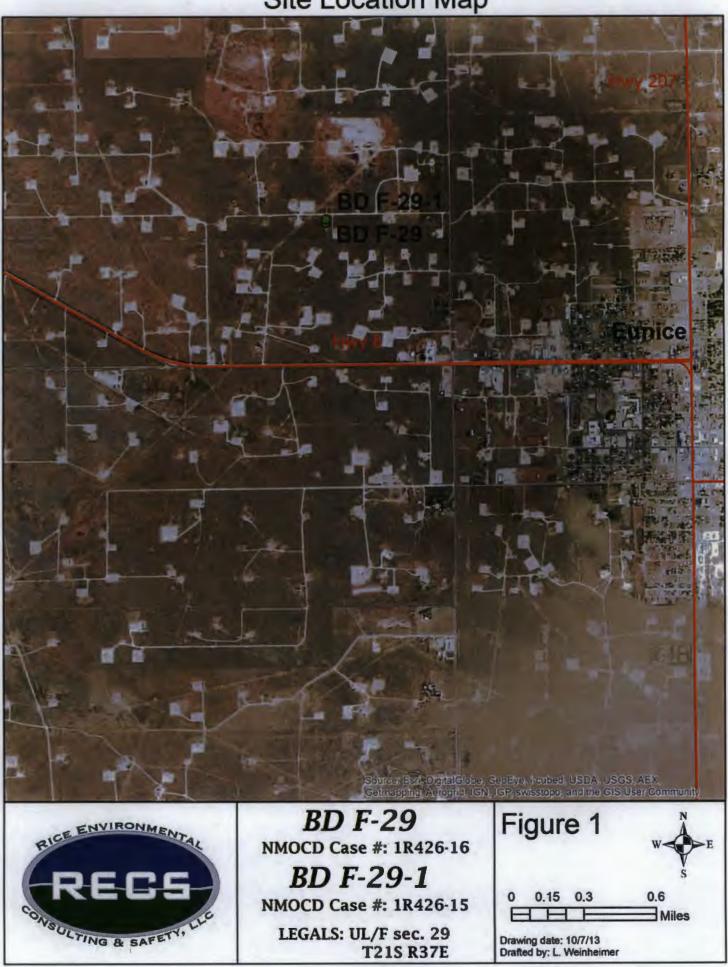
Figure 1 – Site Location Map Figure 2 – Geographical Location Map Figure 3 – Soil Bore Installation, Proposed Liner and Proposed MW Locations Appendix A – Soil Bore Installation Documentation



Figures

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

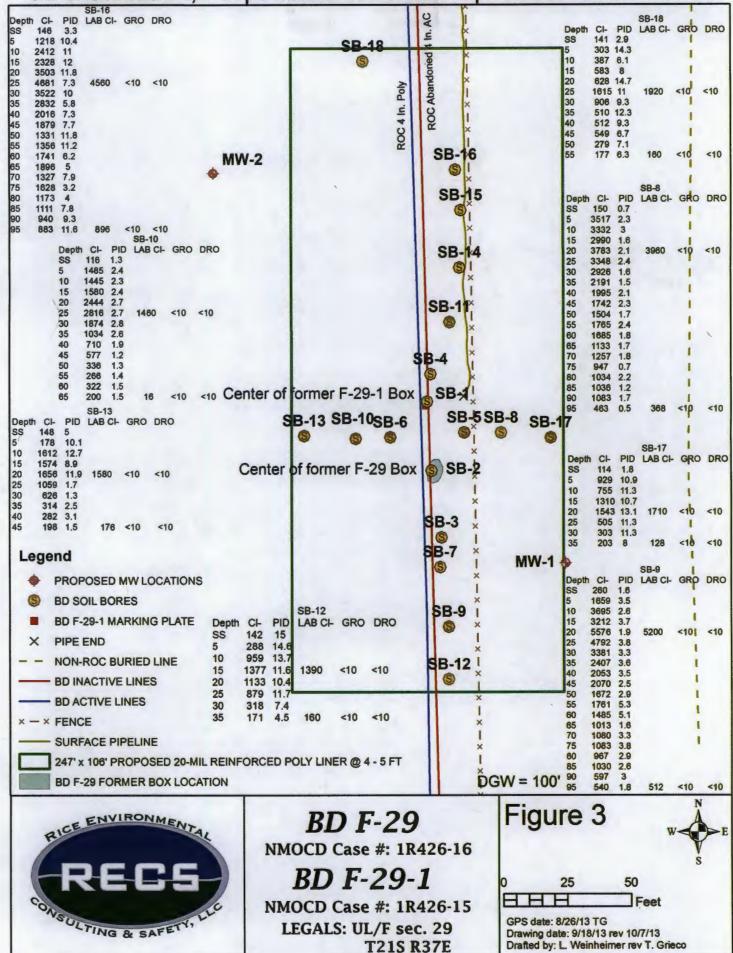
Site Location Map



Geographical Location Map



SB Installation, Proposed Liner and Proposed MW Locations



Appendix A Soil Bore Installation Documentation

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

| Logger: Driller: | Harrison & Cooper, Inc. | | Center of former F-29-1 Box SB1 | | | RE | CS. | į | | |
|---------------------|----------------------------|---------------------|----------------------------------|--------|--|------------------------|---|--------|--------|--------------------------|
| Drilling N | rilling Method: Air Rotary | | | | Center of former F-29 Box | Project Name: Well ID: | | | | |
| | | | 22/201 | | ŚBJ | | BD F-29 & | | | SB-1 |
| | | 22/201 | - alien | \$871 | Pro | ject Consu | Itant | : RECS | 0.0475 | |
| | junct | tion box = 95 ft | k site. | All sa | source of the former F-29-1 mples were from cuttings. : L. Weinheimer GW = 100 ft | Lat | cation: UL/F : 32 °27'2.24 າg: 103 °11' | 2"N | | County: Lea State: NM |
| Depth (feet) | Chlori field te | | AB | PID | Description | | Lithology | - | Well C | Construction |
| SS | | | | | REGOLITH | | | | | |
| 5 ft 10 ft | 952 | | | 20.7 | RED SAND | | | | | |
| 15 ft | 1121 | | | 19.5 | RED SAND WITH SOME CALICHE | | | | | |
| 20 ft | 1581 | | | 7.2 | | | | | | |
| 25 ft | 2159 |) 3 G | CI- 3120 GRO <10 DRO | 14.2 | TAN SAND | | | | | |
| 30 ft | 1662 | - | <10 | 8.4 | | | | | | |
| 35 ft | 1496 | 3 | | 6.5 | | - | | | | |

| Depth (feet) | Chloride field tests | LAB | PID | Description | Lithology | Well Construction |
|-----------------|-------------------------|-----|------|-------------------------|-----------|-------------------|
| 40 ft | 1463 | | 34.7 | | | |
| 45 ft | 1637 | | 14.7 | | | bentonite |
| 50 ft | 1407 | | 57.6 | TAN SAND | | seal |
| 55 ft | 1480 | | 41 | | | |
| 60 ft | 1311 | | 88.4 | | | |
| 65 ft | 1059 | | 39.8 | | | |
| 70 ft | 1269 | | 6.9 | TAN SAND WITH SANDSTONE | | |
| 75 ft | 1175 | | 39.3 | | | |
| 80 ft | 1328 | | 4.9 | | | |

| Depth (feet) | Chloride field tests | LAB | PID | Description | Lithology | Well Construction |
|-----------------|-------------------------|--------------------------|-----|-------------|-----------|-------------------|
| 85 ft | 1311 | | 8.4 | TAN SAND | | |
| 90 ft | 1500 | | 2.8 | | | |
| 95 ft | 471 | CI- 416 GRO <10 | 6.5 | TAN SAND | | |
| La constante | | DRO <10 | | | | |

| Logger: Driller: | Driller: Harrison & Cooper, In | | | Center of former F-29-1 Box | | RECS | | | | |
|--|--------------------------------|----------------|--------------------------------------|-----------------------------|--|------|---|---------|----------------------------|--|
| Drilling M Start Dat End Date | te: | | Air Rotary 7/22/2013 7/22/2013 | | Center of former F-29 Box | | Project Name: Well ID: BD F-29 & F-29-1 SB-2 | | | |
| | ents: Si jun | B-2 is ction t | located | at the s | source of the former F-29 mples were from cuttings. : L. Weinheimer GW = 100 ft | Lo | oject Consulta cation: UL/F s : 32°27'1.981' ng: 103°11'6. | sec. 29 | 9 T21S R37E County: Lea | |
| TD = 95 ft Depth (feet) Chloride field tests | | | | | Description | | Lithology | 1 | Vell Construction | |
| SS | | | | | REGOLITH | | | | | |
| 5 ft | | | | | REGOLITH | | | | | |
| 10 ft | | | | | | | | | | |
| 15 ft | 26 | | | 3.1 | RED SAND WITH CLAY | | | | | |
| 20 ft | 168 | 52 | CI- | 4.2 | | | | | | |
| 25 ft | 297 | 70 | 1660 GRO <10 DRO <10 | 4.4 | TAN SAND WITH SANDSTONE | | | | | |
| 30 ft | 259 | 96 | | 4.3 | | | | | | |
| 35 ft | 195 | 51 | | 5.5 | | | | | | |

| Depth (feet) | Chloride field tests | LAB | PID | Description | Lithology | Well Construction |
|-----------------|-------------------------|-----|-----|-------------------------|-----------|-------------------|
| 40 ft | 1937 | | 4.9 | TAN SAND WITH SANDSTONE | | |
| -0 11 | | | 1.0 | | | |
| 45 ft | 1801 | | 6.8 | | | bentonite seal |
| 50 ft | 1888 | | 3.4 | TAN SAND | | |
| 55 ft | 1800 | | 4.0 | | | |
| 60 ft | 1685 | | 1.6 | | | |
| 65 ft | 1250 | | 1.4 | | | |
| 70 ft | 866 | | 2.6 | | | |
| 75 ft | 831 | | 3.2 | TAN SAND WITH SANDSTONE | | |
| 80 ft | 1104 | | 2.0 | | | |
| 85 ft | 851 | | 2.0 | | | |
| 90 ft | 797 | | 1.8 | | | |

| Depth (feet) | Chloride field tests | LAB | PID | Description | Lithology | Well Construction |
|-----------------|-------------------------|-------------------|-----|-------------------------|-----------|-------------------|
| | | Cl- | | | | |
| 95 ft | 670 | 800 GRO <10 | 2.2 | TAN SAND WITH SANDSTONE | | |
| | | DRO <10 | | | | |

| Logger: Driller: | | | ward Ces | | Center of former F-29-1 Box | | R | | Le |
|--|---------|----|--------------------|-----|--|----------|-----------------------------------|-----------------|--------------|
| Drilling N | Method: | | Air Rotar | у | Center of former F-29 Box | Pr | oject Name: | Well ID: | |
| Start Date | e: | | 7/22/201 | 3 | 583 | | SB-3 | | |
| End Date | | | 7/22/201 | 3 | SB7 1 | Pr | BD F-29 & F- oject Consulta | | |
| Comments: SB-3 is located 26 ft s junction box site. All s DRAFTED B | | | | | outh of the former F-29 imples were from cuttings. /: L. Weinheimer GW = 100 ft | Lo La | cation: UL/F s t: 32°27'1.728" | ec. 29 T2 'N | |
| TD = 95 ftDepthChloride field testsLABPID | | | | | Description | | | | Construction |
| | | | | | | | | | |
| SS | 18 | 3 | | 2.5 | | | | | |
| | | | 4 | | RED SAND WITH SOME CALICHE | | | | |
| 5 ft | 21 | 3 | | 3.5 | | | | | |
| 10 ft | 45 | 6 | | 4.5 | | | | | |
| | | | | 4.0 | | | | | |
| 15 ft | 51 | 9 | | 2.2 | | | | | |
| 20 ft | 142 | 21 | | 3.3 | | | | | |
| | | | | | TAN SAND | | | | |
| 25 ft | 239 | 94 | | 2.7 | | | | | |
| 00.0 | | 10 | CI- | 0.1 | TOWN | | | | |
| 30 ft | 291 | 13 | 1920 GRO <10 | 3.1 | | | | | |
| | | | DRO <10 | | | | | | |
| 35 ft | 230 | 00 | | 4.3 | | | | | |

| Depth (feet) | Chloride field tests | LAB | PID | Description | Lithology | Well Construction |
|-----------------|-------------------------|-----|-----|-------------------------|-----------|-------------------|
| 40 ft | 1988 | | 4 | | | |
| 45 ft | 2067 | | 4.4 | | | bentonite seal |
| 50 ft | 1593 | | 4 | TAN SAND | | |
| 55 ft | 1817 | | 3.2 | | | |
| 60 ft | 1758 | | 3.7 | | | |
| 65 ft | 1928 | | 2.2 | | | |
| 70 ft | 1606 | | 5.5 | | | |
| 75 ft | 1354 | | 5 | TAN SAND WITH SANDSTONE | | |
| 80 ft | 1366 | | 0.8 | | | |
| 85 ft | 1311 | | 1.3 | | | |
| 90 ft | 1363 | | 1.4 | | | |

| Depth (feet) | Chloride field tests | LAB | PID | Description | Lithology | Well Construction |
|-----------------|----------------------|--------------------------|-----|-------------------------|-----------|-------------------|
| 95 ft | 1004 | CI- 1120 | 1.5 | TAN SAND WITH SANDSTONE | | |
| <u>95 II</u> | 1004 | GRO <10 DRO <10 | 1.5 | | | |

| Logger: Driller: | | | ison & Cooper, Inc. | | EBS | ue de | | | | |
|--|-----|---------|-----------------------------------|----------|---|---|--|--|-------------------------|--|
| Drilling M Start Dat End Date | e: | | Air Rotai 7/23/201 7/23/201 | 3 | Center of former F-29 Box | Project Name: BD F-29 & F-29-1 Project Consultant: RE | | | Well ID: SB-4 | |
| Comme | jun | ction b | DOX SITE | . All sa | orth of the former F-29-1 mples were from cuttings. : L. Weinheimer | Location: UL/F sec. 29 T Lat: 32°27'2.35"N | | | 21S R37E County: Lea | |
| TD = 95 ft Depth Chloride field tests LAB PID | | | | PID | GW = 100 ft Description | Lithology Wel | | | State: NM | |
| SS | 22 | 6 | | 2.9 | RED SAND WITH CLAY | | | | | |
| 5 ft | 86 | 4 | | 3.2 | | | | | | |
| 10 ft | 90 | 0 | | 3.3 | TAN SAND | | | | | |
| 15 ft | 100 |)3 | | 10.7 | | | | | | |
| 20 ft | 170 | 06 | | 9.2 | | | | | | |
| 25 ft | 320 | 06 | | 22.2 | TAN SAND WITH SANDSTONE | | | | | |
| 30 ft | 338 | 39 | CI- 3440 GRO <10 DRO | 8.5 | | | | | | |
| 35 ft | 241 | 19 | <10 | 6.4 | | | | | | |

| Depth (feet) | Chloride field tests | LAB | PID | Description | Lithology | Well Construction |
|-----------------|-------------------------|-----|-----|-------------------------|-----------|-------------------|
| 40 ft | 2097 | | 8.0 | | | |
| 45 ft | 1958 | | 3.7 | | | bentonite seal |
| 50 ft | 1188 | | 2.1 | | | |
| 55 ft | 1864 | | 5.0 | TAN SAND WITH SANDSTONE | | |
| 60 ft | 1854 | | 3.1 | | | |
| 65 ft | 1219 | | 4.2 | | | |
| 70 ft | 1354 | | 2.6 | - | | |
| 75 ft | 1196 | | 7.7 | | | |
| 80 ft | 1239 | | 4.2 | RED SAND | | |
| 85 ft | 1217 | | 6.3 | | | |
| 90 ft | 888 | | 4.3 | | | |

| Depth (feet) | Chloride field tests | LAB | PID | Description | Lithology | Well Construction |
|-----------------|-------------------------|--|-----|-------------|-----------|-------------------|
| 95 ft | 752 | CI- 800 GRO <10 DRO <10 | 3.0 | RED SAND | | |

| Logger: Driller: | | Edward Cesareo Harrison & Cooper, Inc. | | | Center of former F-29-1 Box SB6 | | R | | ie ie | |
|---------------------|---------|---|-----------|----------|---|-----|-----------------------------------|----------------|---------------------------|--|
| Drilling M | Method: | Air Rotary | | у | Center of former F-29 Box | | oject Name: | | Well ID: | |
| Start Dat | te: | | 7/23/201 | 3 | SB3 | - | BD F-29 & F- | | SB-5 | |
| End Date | e: | | 7/23/2013 | | SB7 1 | Pro | oject Consulta | | | |
| Comme | juno | ction b | DOX SITE | . All sa | ortheast of the former F-29 mples were from cuttings. : L. Weinhelmer | Lo | cation: UL/F s t: 32°27'2.124" | ec. 29 T2 N | 1S R37E County: Lea | |
| Depth | Chlo |) = 95 ride | ft LAB | PID | GW = 100 ft | Lo | ng: 103°11'6. | | State: NM Construction | |
| (feet) | field t | ests | LAB | PID | Description | | Lithology | weit | Construction | |
| | | | | | RED SAND | | | | | |
| SS | 14 | 4 | | 5.0 | | - | | | | |
| | | | | | RED SAND WITH CLAY | | | | | |
| 5 ft | 91 | 1 | | 6.2 | | | | | | |
| - | - | | | | | | | | | |
| 10 ft | 182 | 23 | | 3.0 | TAN SAND | | | | | |
| 15 ft | 123 | 12 | | 4.6 | | | | | | |
| | 120 | - | | | | 1 | | | | |
| | | | | | RED SAND | | | | - | |
| 20 ft | 288 | 36 | | 1.7 | | | | | | |
| | | | | | | | | | | |
| 25 ft | 285 | 59 | | 1.2 | | | | | | |
| | | | | | TAN SAND WITH SANDSTONE | | | | | |
| 30 ft | 282 | 22 | | 1.0 | | | | | | |
| | | | CI- | | | | | | | |
| 35 ft | 291 | 3 | 2960 | 1.3 | | | | | | |

| Depth (feet) | Chloride field tests | LAB | PID | Description | Lithology | Well Construction |
|-----------------|----------------------|--------------------------|-----|-------------------------|-----------|-------------------|
| | | GRO <10 DRO <10 | | | | |
| 40 ft | 2249 | | 1.0 | TAN SAND WITH SANDSTONE | | |
| 45 ft | 1877 | | 1.5 | | | bentonite seal |
| 50 ft | 1836 | | 3.9 | | | |
| 55 ft | 1728 | | 2.2 | | | |
| 60 ft | 1841 | | 2.4 | | | |
| 65 ft | 1847 | | 4.4 | | | |
| 70 ft | 1428 | | 3.4 | RED SAND | | |
| 75 ft | 1384 | | 2.5 | | | |
| 80 ft | 1231 | | 2.5 | | | |
| 85 ft | 723 | | 2.2 | | | |
| 90 ft | 871 | CI- 960 | 2.1 | | | |

| Depth (feet) | Chloride field tests | LAB | PID | Description | Lithology | Well Construction |
|-----------------|-------------------------|------------|-----|-------------|-----------|-------------------|
| | | GRO <10 | | | | |
| | | DRO <10 | | | | |
| 95 ft | 679 | 679 2.0 | 2.0 | RED SAND | | |
| | | | | | | |
| | | | | 1 | | |

| Drilling Method: Start Date: | | Edward Cesareo Harrison & Cooper, Inc. Air Rotary 7/23/2013 | | | Center of former F-29-1 Box | | RECS | | | |
|---------------------------------|-------------------|--|-------------------|-------------------|--|----|-----------------------------------|----------------|---------------------------|--|
| | | | | 3 | Center of former F-29 Box | | bject Name: BD F-29 & F- | 29-1 | Well ID: SB-6 | |
| End Date Comme | ents: SE junc | 3-6 is | DOX SITE | 20 ft n All sa | orthwest of the former F-29 mples were from cuttings. ': L. Weinheimer | Lo | cation: UL/F s t: 32°27'2.11"N | ec. 29 T2 1 | 1S R37E County: Lea | |
| Depth (feet) | Chlor field to | | ft LAB | PID | GW = 100 ft Description | Lo | Lithology Well | | State: NM Construction | |
| | | - | | | RED SAND | | | | | |
| SS | 309 | 9 | Cl- 3920 | 1.5 | | | | | | |
| | | | GRO <10 DRO | | RED SAND WITH CLAY | | | | | |
| 5 ft | 624 | 4 | <10 | 3.1 | | | | | | |
| | | | | | | | | | | |
| 10 ft | 113 | 5 | | 3.4 | | | | | | |
| 15 ft | 120 | 15 | | 2.3 | | | | | | |
| 20 ft | 164 | 1 | | 3.1 | RED SAND | | | | | |
| 25 ft | 182 | 8 | | 2.5 | | | | | | |
| 30 ft | 224 | 3 | | 3.7 | | | | | | |
| 35 ft | 208 | 81 | Cl- 1960 | 2.8 | | | | | | |

| Depth (feet) | Chloride field tests | LAB | PID | Description | Lithology | Well Construction |
|-----------------|----------------------|------------|-----|-------------|-----------|-------------------|
| | | GRO <10 | | | | |
| | | DRO | | | | |
| | | <10 | | | | |
| 40 ft | 2046 | | 1.3 | | | |
| | | | | | | |
| | | | | | | bentonite |
| 45 ft | 1830 | | 3.4 | | | seal |
| - | | | | | | |
| | | | | | | |
| 50 ft | 1805 | | 2.6 | | | |
| | | | | | | |
| - | | | | | | |
| 55 ft | 1853 | - | 1.4 | | | |
| | | | | | | |
| - | | | | | | |
| 60 ft | 1915 | - | 1.2 | | | |
| | | | | | | |
| | | | | RED SAND | | |
| 65 ft | 1717 | | 1.7 | | | |
| - | | | | | | |
| 70 ft | 1682 | | 1.7 | | | |
| 70 11 | 1002 | | 1.7 | | | |
| | 1 | | | | | |
| 75 ft | 1616 | | 1.8 | | | |
| | | | | | | |
| | | | | | | |
| 80 ft | 1272 | | 2.9 | | | |
| | | | | | | |
| | | | | | 1 | |
| 85 ft | 1290 | | 1.5 | | | |
| | | | | | | |
| | | | | | | |
| 90 ft | 1299 | - | 3.0 | | | |

| Depth (feet) | Chloride field tests | LAB | PID | Description | Lithology | Well Construction |
|-----------------|-------------------------|--------------------------|-----|-------------|-----------|-------------------|
| 95 ft | 726 | CI- 880 GRO <10 | 2.4 | RED SAND | | |
| | | DRO <10 | | | | |

| Logger: Driller: | | Edward Cesareo Harrison & Cooper, Inc. | | | Center of former F-29-1 Box SB1 | RECS Source Environment | | | |
|---------------------|-------------------|---|-------------------------|----------------------|--|-------------------------------|---------------------------------------|--|--|
| Drilling M | e: | | Air Rotary 7/23/2013 | | Center of former F-29 Box | Project Name: BD F-29 & F- | Well ID: 29-1 SB-7 | | |
| End Date | ents: SE junc | 3-7 is | DOX SITE | 37 ft so . All sa | outh of the former F-29 mples were from cuttings. : L. Weinheimer GW = 100 ft | Lat: 32°27'1.622" | ec. 29 T21S R37E 'N County: Lea | | |
| Depth (feet) | Chlor field te | ide | LAB | PID | Description | Long: 103 °11'6. | State: NM Well Construction | | |
| | | | | | | | | | |
| SS | 144 | 4 | | 1.0 | | | | | |
| 5 ft | 816 | 5 | | 0.8 | RED SAND WITH SANDSTONE | | | | |
| 10 ft | 836 | 5 | 1 | 1.8 | | | | | |
| 15 ft | 906 | 3 | | 1.3 | RED SAND | | | | |
| 20 ft | 627 | 7 | | 2.0 | | | | | |
| 25 ft | 129 | 4 | | 1.2 | | | | | |
| 30 ft | 332 | 9 | | 1.0 | TAN SAND | | | | |
| 35 ft | 2104 | 4 | Ci- 2720 | 1.2 | | | | | |

| Depth (feet) | Chloride field tests | LAB | PID | Description | Lithology | Well Construction |
|-----------------|----------------------|--------------------------|-----|-------------|-----------|-------------------|
| | | GRO <10 DRO <10 | | | | |
| 40 ft | 2079 | | 1.3 | | | |
| 45 ft | 1847 | | 1.4 | | | |
| 50 ft | 1829 | | 0.8 | TAN SAND | | bentonite seal |
| | | | | | | |
| 55 ft | 1658 | | 1.6 | | | |
| 60 ft | 1835 | | 1.0 | | | |
| 65 ft | 1273 | | 1.7 | | | |
| 70 ft | 627 | | 1.6 | RED SAND | | |
| 75 ft | 813 | | 1.5 | | | |
| 80 ft | 957 | | 1.0 | | | |

| Depth (feet) | Chloride field tests | LAB | PID | Description | Lithology | Well Construction |
|-----------------|----------------------|--------------------------|-----|-------------|-----------|-------------------|
| 85 ft | 783 | | 1.4 | | | |
| 90 ft | 852 | | 1.6 | RED SAND | | |
| 95 ft | 468 | CI- 624 GRO <10 | 0.9 | | | |
| | | DRO <10 | | | | |

| Logger: Driller: | . н | Edward Cesareo Harrison & Cooper, Inc. | | Center of former F-29-1 Box | | RECS | | | |
|-------------------------|---------------------|---|-----------|---|---|-------------------|--|--|--|
| Drilling M Start Dat | | Air Rot | | Center of former F-29 Box | Project Name | | | | |
| End Date | 1 | 8/19/20 | | | BD F-29 & | | | | |
| | | | | SSE of the former F-29-1 | Project Consu | Iltant: RECS | | | |
| | junct | ion box sit | e. All sa | amples were from cuttings. Y: L. Weinheimer GW = 100 ft | Location: UL/F sec. 29 T21S R37E Lat: 32 º27'2.116"N County: Lea Long: 103 °11'6.23"W State: NM | | | | |
| Depth (feet) | Chlorid field te | | PID | Description | Lithology | Well Construction | | | |
| | | | | Brown Sand | | | | | |
| SS | 150 | | 0.7 | | | | | | |
| 5 ft | 3517 | , | 2.3 | Red Sand | | | | | |
| 10 ft | 3332 | 2 | 3 | | | | | | |
| 15 ft | 2990 |) | 1.6 | | | | | | |
| 20 ft | 3783 | Cl- 3960 | 2.1 | | | | | | |
| | | GRO <10 DRO | | | | | | | |
| 25 ft | 3348 | <10 | 2.4 | Tan Sand | | | | | |
| | | | | | | | | | |
| 30 ft | 2926 | 3 | 1.6 | | | | | | |
| 35 ft | 2191 | | 1.5 | | | | | | |

| Depth (feet) | Chloride field tests | LAB | PID | Description | Lithology | Well Construction |
|-----------------|-------------------------|-----|-----|-------------|-----------|-------------------|
| 40 ft | 1995 | | 2.1 | | | |
| 45 ft | 1742 | | 2.3 | | | bentonite seal |
| 50 ft | 1504 | | 1.7 | | | |
| 55 ft | 1765 | | 2.4 | | | |
| 60 ft | 1685 | | 1.8 | | | |
| 65 ft | 1133 | | 1.7 | Tan Sand | | |
| 70 ft | 1257 | | 1.8 | | | |
| 75 ft | 947 | | 0.7 | | | |
| 80 ft | 1034 | | 2.2 | | | |
| 85 ft | 1036 | | 1.2 | | | |
| 90 ft | 1083 | | 1.7 | | | |

| Depth (feet) | Chloride field tests | LAB | PID | Description | Lithology | Well Construction |
|-----------------|-------------------------|----------------|-----|-------------|-----------|-------------------|
| 95 ft | 463 | Cl- 368 0.5 | | Tan Sand | | |
| | | GRO <10 | | | | |
| | | DRO <10 | | | | |

| Logger: Driller: Drilling Method: Start Date: | | Edward Cesareo Harrison & Cooper, Inc. Air Rotary | | | Center of former F-29 Box | Project Name: Well ID: | | |
|--|-------------------|---|--------------------|-----------|--|--|-------------------|--|
| | | | | у | | | | |
| | | 8/19/2013 | | | 38.s | BD F-29 & F-29-1 SB-9 | | |
| End Date: 8/19/2013 | | | | | | Project Consultant: RECS Location: UL/F sec. 29 T21S R37E | | |
| Comme | junc | | OX SITE. | . All sar | outh of the former F-29-1 mples were from cuttings. L. Weinheimer GW = 100 ft | Location: UL/F Lat: 32 27'1.39 Long: 103 11'0 | 1"N County: Lea | |
| Depth (feet) | Chlor field te | | LAB | PID | Description | Lithology | Well Construction | |
| | | - | | | Brown Sand | | | |
| SS | 260 |) | | 1.6 | Biown Cand | | | |
| | | | | | | | | |
| 5 ft | 165 | 9 | | 3.5 | | | | |
| 10 ft | 369 | 5 | | 2.6 | Red Sand | | | |
| | | | | | | | | |
| 15 ft | 321 | 2 | | 3.7 | | | | |
| | | | CI- | | | | | |
| 20 ft | 557 | 6 | 5200 GRO <10 | 1.9 | | | | |
| | | | DRO <10 | | | | | |
| 25 ft | 479 | 2 | | 3.8 | Tan Sand | | | |
| | | | | | | | | |
| 30 ft | 338 | 1 | | 3.3 | | | | |
| 35 ft | 240 | 7 | | 3.6 | | | | |

| Depth (feet) | Chloride field tests | LAB | PID | Description | Lithology | Well Construction |
|-----------------|-------------------------|-----|-----|-------------|-----------|-------------------|
| 40 ft | 2053 | | 3.5 | | | |
| 45 ft | 2070 | | 2.5 | | | bentonite |
| 50 ft | 1672 | | 2.9 | | | |
| 55 ft | 1761 | | 5.3 | | | |
| 60 ft | 1485 | | 5.1 | Tag Cand | | |
| 65 ft | 1013 | | 1.6 | Tan Sand | | |
| 70 ft | 1080 | | 3.3 | | | |
| 75 ft | 1083 | | 3.8 | | | |
| 80 ft | 967 | | 2.9 | | | |
| 85 ft | 1030 | | 2.6 | | | |
| 90 ft | 597 | | 3.0 | | | |

| Depth (feet) | Chloride field tests | LAB | PID | Description | Lithology | Well Construction |
|-----------------|-------------------------|--------------------------|-----|-------------|-----------|-------------------|
| 95 ft | 540 | CI- 512 GRO <10 | 1.8 | Tan Sand | | |
| | | DRO <10 | | | | |

| Drilling Method: Air Rotary Start Date: 8/19/2013 End Date: 8/19/2013 Comments: SB-10 is located 31 ft S junction box site. All sar DRAFTED BY: | | | on & Coop Air Rotar 8/19/201 8/19/201 s locate Dox site DRAI | per, Inc. y 3 d 31 ft . All sa | Center of former F-29-1 Box Center of former F-29 Box SW of the former F-29-1 amples were from cuttings. Y: L. Weinheimer | Project Name: Well ID: BD F-29 & F-29-1 SB-10 Project Consultant: RECS Location: UL/F sec. 29 T21S R37E Lat: 32°27'2.105"N County: Let | | | | |
|--|------------------|--|--|--|---|--|-----------------------------------|--|--|--|
| Depth (feet) | Chlor field t | () () () () () () () () () () () () () (| ft LAB | PID | GW = 100 ft Description | Long: 103 °11'6. | 882"W State: NM Well Construction | | | |
| SS | 11 | 6 | | 1.3 | Brown Sand | | | | | |
| 5 ft | 148 | 35 | | 2.4 | Red Sand | | | | | |
| 10 ft | 144 | 15 | | 2.3 | neu Sanu | | | | | |
| 15 ft | 158 | 80 | | 2.4 | | | | | | |
| 20 ft | 244 | 14 | | 2.7 | | | | | | |
| 25 ft | 281 | 6 | CI- 1460 GRO <10 DRO | 2.7 | Tan Sand | | | | | |
| 30 ft | 187 | 74 | <10 | 2.8 | | | bentonite seal | | | |
| 35 ft | 103 | 34 | | 2.6 | | | | | | |

| Depth (feet) | Chloride field tests | LAB | PID | Description | Lithology | Well Construction |
|-----------------|-------------------------|-------------------------|-----|-------------|-----------|-------------------|
| 40 ft | 710 | | 1.9 | | | |
| 45 ft | 577 | | 1.2 | | | |
| 50 ft | 336 | | 1.3 | Tan Sand | | |
| 55 ft | 266 | | 1.4 | | | |
| 60 ft | 322 | | 1.5 | | | |
| 65 ft | 200 | CI- 16 GRO <10 | 1.5 | | | |
| | 12.91.2 | DRO <10 | | | |) |

| Drilling Method:Air RotaryStart Date:8/19/2013End Date:8/19/2013Comments:SB-11 is located 32 ft f | | per, Inc. y 3 3 cd 32 ft | Center of former F-29 Box | Project Name: Well ID: BD F-29 & F-29-1 SB-11 Project Consultant: RECS Location: UL/F sec. 29 T21S R37E | | | |
|---|-------------------|--------------------------------------|----------------------------------|--|-------------|--|-------------------|
| | |) = 95 | DRA | | GW = 100 ft | Lat: 32 º27'2.549' Long: 103 º11'6. | ••••···· |
| Depth (feet) | Chlor field to | | LAB | PID | Description | Lithology | Well Construction |
| SS | 150 | 0 | | 0.7 | Brown Sand | | |
| 5 ft | 111 | 0 | | 2.3 | | | |
| 10 ft | 112 | .7 | | 1.4 | Red Sand | | |
| 15 ft | 317 | 7 | | 1.2 | | | |
| 20 ft | 289 | 3 | | 2.4 | | | |
| 25 ft | 351 | 9 | CI- 4080 GRO <10 DRO | 2.2 | Tan Sand | | |
| 30 ft | 317 | 0 | <10 | 1.9 | | | |
| 35 ft | 267 | 3 | | 1.5 | | | |

| Depth (feet) | Chloride field tests | LAB | PID | Description | Lithology | Well Construction |
|-----------------|-------------------------|-----|-----|-------------|-----------|-------------------|
| 40 ft | 2404 | | 2.1 | | | |
| 45 ft | 2177 | | 2.3 | | | bentonite |
| 50 ft | 1628 | | 1.2 | | | seal |
| 55 ft | 1505 | | 2.1 | | | |
| 60 ft | 1875 | | 2.3 | | | |
| 65 ft | 1704 | | 0.8 | Tan Sand | | |
| 70 ft | 1188 | | 2.5 | | | |
| 75 ft | 1187 | | 2.3 | | | |
| 80 ft | 1183 | | 2.2 | | | |
| 85 ft | 1529 | | 2.6 | | | |
| 90 ft | 1341 | | 2.3 | | | |

| Depth (feet) | Chloride field tests | LAB | PID | Description | Lithology | Well Construction |
|-----------------|-------------------------|------------|-----|-------------|-----------|-------------------|
| 95 ft | 662 | Cl- 640 | 2.2 | Tan Sand | State - | |
| | | GRO <10 | | | | |
| | | DRO <10 | | | | |

| Logger: Driller: | Driller: Harrison & Cooper, In | | per, Inc. | Center of former F-29 Box 58-2 58-3 88-7 | RECS CONSULTANG & SAFETYI CC | | | | |
|---|--------------------------------|-----------------------|---------------------------|--|---|---|-------------------|--|--|
| Drilling Method: Air rotary Start Date: 8/26/2013 End Date: 8/26/2013 | | | | 3 | SB-9 | Project Name: BD F-29 and Project Consult | | | |
| Comme | | | of the DRA | former F- | ttings. SB-12 located 81 ft 29 junction box site. . Weinheimer GW = 100 ft | | sec. 29 T21S R37E | | |
| Depth (feet) | Chlo field t | and the second second | LAB | PID | Description | Lithology | Well Construction | | |
| | - | - | | | BROWN SAND | | | | |
| SS | 14 | 2 | | 15 | | | | | |
| F. 44 | | | | 110 | RED SAND | | | | |
| 5 ft | 28 | 8 | | 14.6 | | | | | |
| 10 ft | 95 | 9 | | 13.7 | | | | | |
| 15 ft | 137 | 77 | CI- 1390 GRO <10 | 11.6 | | | bentonite | | |
| | | | DRO <10 | | | | seal | | |
| 20 ft | 113 | 33 | | 10.4 | TAN SAND | | | | |
| 25 ft | 87 | 9 | | 11.7 | | | | | |
| 30 ft | 31 | 8 | | 7.4 | | | | | |
| 35 ft | 17 | 1 | CI- 160 GRO | 4.5 | | | | | |
| | | - | <10 DRO <10 | | | | | | |

| Logger: Edward Cesareo Driller: Harrison & Cooper, Inc | | | Conner of former 1 -20-1 Dox | RECS | | | | |
|--|------------------------|---|-------------------------------|--|--|---|--|--|
| Drilling M Start Dat End Date Comme | e: ents: All s W | SW of the DRA | 13 13 re from former | Center of former F-29 Box SB-2 Cuttings. SB-13 located 50 ft F-29-1 junction box site. f: L. Weinheimer | Project Name:Well ID:BD F-29 and F-291SB-13Project Consultant:RECSLocation:UL/F sec. 29 T21S R37ELat:32°27'2.117"NCounty:Let | | | |
| Depth (feet) | Chlorid field tes | IIAH | PID | GW = 100 ft Description | Long: 103°11'7. | 126"W State: NM Well Construction | | |
| SS | 148 | | 5.0 | BROWN SAND | | | | |
| 5 ft | 178 | | 10.1 | RED SAND | | | | |
| 10 ft 15 ft | 1612 1574 | | 12.7 8.9 | | | | | |
| 20 ft | 1656 | Cl- 1580 GRO <10 DRO <10 | 11.9 | TAN SAND | | bentonite | | |
| 25 ft | 1059 | | 1.7 | | | sear | | |
| 30 ft | 626 | | 1.3 | | | | | |
| 35 ft | 314 | | 2.5 | | | | | |

| Depth (feet) | Chloride field tests | LAB | PID | Description | Lithology | Well Construction |
|-----------------|-------------------------|---------------------------------|-----|-------------|-----------|-------------------|
| 40 ft | 282 | | 3.1 | | | |
| 45 ft | 198 | CI- 176 GRO <10 DRO | 1.5 | TAN SAND | | |
| - | | <10 | | | | |

| Logger: Edward Cesareo Driller: Harrison & Cooper, Inc. | | | | | 8 SB-15 (9) SB-14 | RECS. | | | | |
|--|---|------|--------------------------|--------|--|--|----------------|--------------------------------------|--------------|--|
| Start Dat | Drilling Method: Air rotary Start Date: 8/26/2013 End Date: 8/26/2013 | | | 3 | SB-1 SB-4 Center of former F-29-1 Box SB-2 | Project Name: Well ID: BD F-29 and F-291 SB-14 | | | | |
| | ents: All | samp | of the fo | e from | Lo | oject Consulta cation: UL/F s t: 32°27'2.749' ng: 103°11'6. | ec. 29 T2 N | 21S R37E County: Lea State: NM | | |
| Depth (feet) | Chlor field to | ide | LAB | PID | GW = 100 ft Description | | Lithology | | Construction | |
| | | | | | BROWN SAND | | | | | |
| SS | 14(|) | | 0.2 | | | | | | |
| | | | | | RED SAND | | | | | |
| 5 ft | 942 | 2 | | 0.8 | | | | | | |
| 10 ft | 141 | 1 | | 0.8 | | | | | | |
| 15 ft | 301 | 9 | | 0.6 | | | | | | |
| 20 ft | 322 | 2 | Cl- 3240 | 0.9 | | | | | | |
| - | | | GRO <10 DRO <10 | | TAN SAND WITH SOME CALICHE | | | | | |
| 25 ft | 302 | 9 | | 1.9 | | | | | | |
| 30 ft | 198 | 8 | | 2.1 | | | | | | |
| 35 ft | 178 | 2 | | 0.6 | | | | | | |

| Depth (feet) | Chloride field tests | LAB | PID | Description | Lithology | Well Construction |
|-----------------|-------------------------|-----|-----|----------------------------|-----------|-------------------|
| 40 ft 45 ft | 1498 1464 | | 0.7 | | | bentonite |
| 50 ft | 1307 | | 5.6 | | | seal |
| 55 ft | 1524 | | 5.7 | | | |
| 60 ft | 1437 | | 3.5 | TAN SAND WITH SOME CALICHE | | |
| 65 ft | 1342 | | 1.9 | | | |
| 70 ft | 1007 | | 3.2 | | | |
| 75 ft | 1010 | | 2.4 | | | |
| 80 ft | 1118 | | 2.2 | | | |
| 85 ft | 864 | | 2.5 | | | |

| Depth (feet) | Chloride field tests | LAB | PID | Description | Lithology | Well Construction |
|-----------------|-------------------------|-------------------|-----|----------------------------|-----------|-------------------|
| 90 ft | 717 | | 1.4 | | | |
| 95 ft | 803 | Cl- 735 GRO | 0.5 | TAN SAND WITH SOME CALICHE | | |
| | | <10 DRO <10 | | | | |

| Logger:Edward CesareoDriller:Harrison & Cooper, Inc.Drilling Method:Air rotaryStart Date:8/26/2013End Date:8/26/2013 | | | | | SB-14 | RECS | | | | |
|--|-----------------|----|--------------------|---------|---|--|---|-----------------|--------------|--|
| | | | 8/26/201 | 3 | Center of former F-29-1 Box | Project Name: Well ID: BD F-29 and F-291 SB-1 Project Consultant: RECS | | | | |
| Comme | | | of the fo | ormer F | cuttings. SB-15 located 75 ft -29-1 junction box site. : L. Weinheimer GW = 100 ft | Lo | cation: UL/F s t: 32°27'2.968' ng: 103°11'6.4 | ec. 29 T2 'N | | |
| Depth (feet) | Chlo field t | | LAB | PID | Description | | | | Construction | |
| | | | | | BROWN SAND | | | | | |
| SS | 14 | 6 | | 1.0 | | | | | | |
| | | | | | RED SAND | | | | | |
| 5 ft | 119 | 96 | | 10.2 | | | | | | |
| 10 ft | 19 | 56 | | 14.9 | | | | | | |
| 15 ft | 24: | 36 | | 15.5 | | | | | | |
| 20 ft | 358 | 86 | | 13.2 | TAN SAND WITH SOME CALICHE | | | | | |
| 25 ft | 38 | 12 | CI- 3600 GRO | 13.6 | | | | | | |
| | | | <10 DRO <10 | | | | | | | |
| 30 ft | 28 | 14 | | 13.3 | | | | | | |
| | | | | | | | | | | |
| 35 ft | 230 | 08 | | 12.9 | | | | | | |

| Depth (feet) | Chloride field tests | LAB | PID | Description | Lithology | Well Construction |
|-----------------|-------------------------|-----|------|----------------------------|-----------|-------------------|
| 40 ft | 2013 | | 16.2 | | | |
| 45 ft | 1247 | | 16.6 | | | bentonite |
| 50 ft | 1118 | | 15.3 | | | seal |
| 55 ft | 1003 | | 15.0 | | | |
| 60 ft | 1579 | | 10.7 | TAN SAND WITH SOME CALICHE | | |
| 65 ft | 651 | | 13.6 | | | |
| 70 ft | 660 | | 15.6 | | | |
| 75 ft | 658 | | 14.0 | | | |
| 80 ft | 686 | | 13.6 | | | |
| 85 ft | 752 | | 16.0 | | | |

| Depth (feet) | Chloride field tests | LAB | PIŅ | Description | Lithology | Well Construction |
|-----------------|-------------------------|---------------------|------|----------------------------|-----------|-------------------|
| 90 ft | 681 | | 13.0 | | | |
| | | | | TAN SAND WITH SOME CALICHE | | |
| 95 ft 6 | 633 | 633 CI- 608 13.4 | 13.4 | | | |
| | | GRO <10 | | | | |
| | | DRO <10 | | | | |

| Logger:Edward CesareoDriller:Harrison & Cooper, Inc.Drilling Method:Air rotaryStart Date:8/27/2013End Date:8/27/2013 | | * 38-16 SB-16 SB-16 | R | ECS | | | |
|--|--------------------|------------------------------|---|--------|---|---|--|
| | | Center of former F-29-1, Box | Project Name: Well ID: BD F-29 and F-291 SB-16 Project Consultant: RECS | | | | |
| Comme | 1 | | DRAF | sample | NE of the former F-29-1 junction s were from cuttings. L. Weinheimer GW = 100 ft | Location: UL/F s Lat: 32°27'3.125" Long: 103°11'6.4 | ec. 29 T21S R37E 'N County : Lea |
| Depth (feet) | Chlori field te | | AB | PID | Description | Lithology | Well Construction |
| | | - | | | RED SAND | | |
| SS | 146 | | | 3.3 | | | |
| | | | | | RED SAND AND SOME CLAY | | |
| 5 ft | 1218 | 3 | | 10.4 | | | |
| 10 ft | 2412 | 2 | | 11.0 | TAN SAND | | |
| 15 ft | 2328 | 3 | | 12.0 | | | |
| 20 ft | 3503 | 3 | | 11.8 | | | |
| 25 ft | 4681 | 1 4 | CI- 4560 GRO <10 | 7.3 | BROWN SAND | | |
| | 3522 | - | DRO <10 | 10 | | | |
| 30 ft | 3022 | - | | | | | |
| 35 ft | 2832 | 2 | - | 5.8 | | | |

| Depth (feet) | Chloride field tests | LAB | PID | Description | Lithology | Well Construction |
|-----------------|-------------------------|-----|------|-------------|-----------|-------------------|
| 40 ft | 2016 | | 7.3 | | | |
| 45 ft | 1879 | | 7.7 | | | > bentonite |
| 50 ft | 1331 | | 11.8 | | | seal |
| 55 ft | 1356 | | 11.2 | | | |
| 60 ft | 1741 | | 6.2 | BROWN SAND | | |
| 65 ft | 1896 | | 5 | | | |
| 70 ft | 1327 | | 7.9 | | | |
| 75 ft | 1628 [.] | | 3.2 | | | |
| 80 ft | 1173 | | 4 | | | |
| 85 ft | 1111 | | 7.8 | | | |

| Depth (feet) | Chloride field tests | LAB | PID | Description | Lithology | Well Construction |
|-----------------|-------------------------|------------|------|-------------|-----------|-------------------|
| 90 ft | 940 | | 9.3 | | | |
| 95 ft | 883 | CI- 896 | 11.6 | BROWN SAND | | |
| | | GRO <10 | | | | |
| | | DRO <10 | | | | J |

| Driller: Hamson & Cooper, Inc. | | F-29-1 Box 58-1/1 | | RECS | | | | | | |
|-------------------------------------|--------------------|-------------------|--------------------------------------|----------|---|---|-----------|---|--------------|--|
| Drilling M Start Dat End Date | te: e: | | Air rotary 8/27/2013 8/27/2013 | | Project Name: Well ID: BD F-29 and F-291 SB-17 Project Consultant: RECS | | | | | |
| Comme | | | k. All si DRAI | amples | ENE of the former F-29 junction were from cuttings. /: L. Weinheimer GW = 100 ft | Location: UL/F sec. 29 T21S R37E Lat: 32°27'2.097"N County: Le Long: 103°11'6.001"W State: NM | | | | |
| Depth (feet) | Chlori field te | ide | LAB | PID | Description | | Lithology | 1 | Construction | |
| | | _ | | | BROWN SAND | | | | | |
| SS | 114 | | | 1.8 | | | | | | |
| 5 ft | 929 | , | | 10.9 | RED SAND AND SOME CLAY | | | | | |
| 10 ft | 755 | ; | | 11.3 | | | | | | |
| 15 ft | 1310 | 0 | | 10.7 | RED SAND AND SOME CALICHE | | | | bentonite | |
| 20 ft | 1543 | 3 | Cl- 1710 GRO | 13.1 | BROWN SAND AND SOME ROCK | | | | seal | |
| | | | <10 DRO <10 | | | | | | | |
| 25 ft | 505 | | | 11.3 | | | | | | |
| 30 ft | 303 | 303 11.3 | 11.3 | TAN SAND | | | | | | |
| | | - | CI- 128 GRO | | | | | | | |
| 35 ft | 203 | | <10 DRO <10 | 8 | | | | | | |

| Logger: Edward Cesareo Driller: Harrison & Cooper, Inc. | | Harrison & Cooper, Inc. | | RECS | | | | | |
|---|---|-------------------------|------------|---|---|-------------------|--|--|--|
| Start Dat | Orilling Method: Air rotary Start Date: 8/27/2013 End Date: 8/27/2013 | | 13 | BB-15 | Project Name: Well ID: BD F-29 and F-291 SB-18 Project Consultant: RECS | | | | |
| Comme | juncti | on box site | e. All sa | t NNW of the former F-29-1 amples were from cuttings. /: L. Weinheimer GW = 100 ft | Location: UL/F : Lat: 32°27'3.536 Long: 103°11'6. | ••••····· | | | |
| Depth (feet) | Chlorid field tes | | PID | Description | Lithology | Well Construction | | | |
| | | | BROWN SAND | | | | | | |
| SS | 141 | | 2.9 | | | | | | |
| 5 ft | 303 | | 14.3 | RED SAND WITH SOME CLAY | | | | | |
| 10 ft | 387 | | 6.1 | RED SAND WITH SOME CALICHE | | | | | |
| 15 ft | 583 | | 8 | | | | | | |
| 20 ft | 628 | | 14.7 | RED SAND | | | | | |
| 25 ft 1615 CI- 1920 11 GRO <10 | | | | bentonite | | | | | |
| 20.4 | 000 | DRO <10 | | TAN SAND WITH SOME PEA STONE | | seal | | | |
| 30 ft 90 | | | 9.3 | OTONE | | | | | |
| 35 ft | 510 | | 12.3 | | | | | | |

| Depth (feet) | Chloride field tests | | | Description | Lithology | Well Construction | | |
|-----------------|-------------------------|--|-----|---------------------------------|-----------|-------------------|--|--|
| 40 ft | 512 | | 9.3 | | | | | |
| 45 ft | 549 | | 6.7 | | | | | |
| 50 ft | 279 | | 7.1 | TAN SAND WITH SOME PEA STONE | | | | |
| 55 ft | 177 | CI- 160 GRO <10 DRO <10 | 6.3 | | | | | |



July 29, 2013

Hack Conder Rice Operating Company 112 W. Taylor Hobbs, NM 88240

RE: BD F-29-1, F-29

Enclosed are the results of analyses for samples received by the laboratory on 07/23/13 8:25.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab accredited certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

| Method EPA 552.2 | Haloacetic Acids (HAA-5) |
|------------------|------------------------------|
| Method EPA 524.2 | Total Trihalomethanes (TTHM) |
| Method EPA 524.4 | Regulated VOCs (V1, V2, V3) |

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celeg D. Keine

Celey D. Keene Lab Director/Quality Manager



Rice Operating Company Hack Conder 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

| Received: | 07/23/2013 | Sampling Date: | 07/22/2013 |
|-------------------|-----------------|---------------------|---------------|
| Reported: | 07/29/2013 | Sampling Type: | Soil |
| Project Name: | BD F-29-1, F-29 | Sampling Condition: | Cool & Intact |
| Project Number: | NONE GIVEN | Sample Received By: | Jodi Henson |
| Project Location: | NOT GIVEN | | |

Sample ID: SB #1 25' (H301715-01)

| mg/kg | | Analyzed By: AP | | | | | | |
|--------|---|--|--|--|---|---|---|---|
| Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| 3120 | 16.0 | 07/23/2013 | ND | 416 | 104 | 400 | 0.00 | |
| mg/kg | | Analyzed By: MS | | | | | | |
| Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| <10.0 | 10.0 | 07/23/2013 | ND | 173 | 86.3 | 200 | 2.47 | |
| <10.0 | 10.0 | 07/23/2013 | ND | 184 | 92.0 | 200 | 3.52 | |
| 77.9 | % 65.2-14 | 0 | | | | | | |
| 97.6 | % 63.6-15 | 4 | | | | | | |
| | Result 3120 mg/ Result <10.0 <10.0 77.9 | Result Reporting Limit 3120 16.0 mg/kg mg/kg Result Reporting Limit <10.0 | Result Reporting Limit Analyzed 3120 16.0 07/23/2013 mg/kg Analyzed Result Reporting Limit Analyzed <10.0 | Result Reporting Limit Analyzed Method Blank 3120 16.0 07/23/2013 ND mg/kg Analyzed By: MS Method Blank Result Reporting Limit Analyzed By: MS 10.0 10.0 07/23/2013 ND <10.0 | Result Reporting Limit Analyzed Method Blank BS 3120 16.0 07/23/2013 ND 416 mg/kg Analyzed By: MS Method Blank BS Result Reporting Limit Analyzed By: MS BS <10.0 | Result Reporting Limit Analyzed Method Blank BS % Recovery 3120 16.0 07/23/2013 ND 416 104 mg/kg Analyzed By: MS Method Blank BS % Recovery Result Reporting Limit Analyzed By: MS Method Blank BS % Recovery <10.0 | Result Reporting Limit Analyzed Method Blank BS % Recovery True Value QC 3120 16.0 07/23/2013 ND 416 104 400 mg/kg Analyzed By: MS Method Blank BS % Recovery True Value QC Analyzed By: MS Method Blank BS % Recovery True Value QC <10.0 | Result Reporting Limit Analyzed Method Blank BS % Recovery True Value QC RPD 3120 16.0 07/23/2013 ND 416 104 400 0.00 mg/kg Analyzed By: MS Method Blank BS % Recovery True Value QC RPD Result Reporting Limit Analyzed By: MS </td |

Sample ID: SB #1 95' (H301715-02)

| Chloride, SM4500CI-B | mg/kg | | Analyzed By: AP | | | | | | |
|-------------------------------|--------|-----------------|-----------------|--------------|-----|------------|---------------|------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Chloride | 416 | 16.0 | 07/23/2013 | ND | 416 | 104 | 400 | 0.00 | |
| TPH 8015M | mg/kg | | Analyzed By: MS | | | | | | |
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| GRO C6-C10 | <10.0 | 10.0 | 07/23/2013 | ND | 173 | 86.3 | 200 | 2.47 | |
| DRO >C10-C28 | <10.0 | 10.0 | 07/23/2013 | ND | 184 | 92.0 | 200 | 3.52 | |
| Surrogate: 1-Chlorooctane | 71.4 | % 65.2-14 | 0 | | | | | | |
| Surrogate: 1-Chlorooctadecane | 92.5 | % 63.6-15 | 4 | | | | | | |

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Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager



Rice Operating Company Hack Conder 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

| Received: | 07/23/2013 | Sampling Date: | 07/22/2013 |
|-------------------|-----------------|---------------------|---------------|
| Reported: | 07/29/2013 | Sampling Type: | Soil |
| Project Name: | BD F-29-1, F-29 | Sampling Condition: | Cool & Intact |
| Project Number: | NONE GIVEN | Sample Received By: | Jodi Henson |
| Project Location: | NOT GIVEN | | |

Sample ID: SB #2 25' (H301715-03)

| Chloride, SM4500Cl-B | mg/kg | | Analyzed By: AP | | | | | | |
|-------------------------------|--------|-----------------|-----------------|--------------|-----|------------|---------------|-------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Chloride | 1660 | 16.0 | 07/23/2013 | ND | 416 | 104 | 400 | 0.00 | |
| TPH 8015M | mg/kg | | Analyzed By: MS | | | | | | |
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| GRO C6-C10 | <10.0 | 10.0 | 07/24/2013 | ND | 173 | 86.7 | 200 | 1.54 | |
| DRO >C10-C28 | <10.0 | 10.0 | 07/24/2013 | ND | 174 | 86.9 | 200 | 0.263 | |
| Surrogate: 1-Chlorooctane | 83.6 | % 65.2-14 | 0 | | | | | | |
| Surrogate: 1-Chlorooctadecane | 103 | 63.6-15 | 4 | | | | | | |

Sample ID: SB #2 95' (H301715-04)

| Chloride, SM4500CI-B | mg/kg | | Analyzed By: AP | | | | | | |
|-------------------------------|--------|-----------------|-----------------|--------------|-----|------------|---------------|-------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Chloride | 800 | 16.0 | 07/23/2013 | ND | 416 | 104 | 400 | 0.00 | |
| TPH 8015M | mg/kg | | Analyzed By: MS | | | | _ | _ | |
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| GRO C6-C10 | <10.0 | 10.0 | 07/24/2013 | ND | 173 | 86.7 | 200 | 1.54 | |
| DRO >C10-C28 | <10.0 | 10.0 | 07/24/2013 | ND | 174 | 86.9 | 200 | 0.263 | |
| Surrogate: 1-Chlorooctane | 85.5 | % 65.2-14 | 0 | | | | | | |
| Surrogate: 1-Chlorooctadecane | 106 | % 63.6-15 | 4 | | | | | | |

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Celez D. Kune

Celey D. Keene, Lab Director/Quality Manager



Rice Operating Company Hack Conder 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

| Received: | 07/23/2013 | Sampling Date: | 07/22/2013 |
|-------------------|-----------------|---------------------|---------------|
| Reported: | 07/29/2013 | Sampling Type: | Soil |
| Project Name: | BD F-29-1, F-29 | Sampling Condition: | Cool & Intact |
| Project Number: | NONE GIVEN | Sample Received By: | Jodi Henson |
| Project Location: | NOT GIVEN | | |

Sample ID: SB #3 30' (H301715-05)

| | mg/kg | | Analyzed By: AP | | | | | |
|--------|---|--|---|--|---|---|--|---|
| Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| 1920 | 16.0 | 07/23/2013 | ND | 416 | 104 | 400 | 0.00 | |
| mg/kg | | Analyzed By: MS | | | | | | |
| Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| <10.0 | 10.0 | 07/24/2013 | ND | 173 | 86.7 | 200 | 1.54 | |
| <10.0 | 10.0 | 07/24/2013 | ND | 174 | 86.9 | 200 | 0.263 | |
| 81.1 | % 65.2-14 | 0 | | | | | | |
| 99.5 | % 63.6-15 | 4 | | | | | | |
| - | 1920 mg/ Result <10.0 <10.0 81.1 | 1920 16.0 mg/kg Result Reporting Limit <10.0 | 1920 16.0 07/23/2013 mg/kg Analyzed Result Reporting Limit Analyzed <10.0 | 1920 16.0 07/23/2013 ND mg/kg Analyzed By: MS Result Reporting Limit Analyzed Method Blank <10.0 | 1920 16.0 07/23/2013 ND 416 mg/kg Analyzed By: MS MS MS Result Reporting Limit Analyzed Method Blank BS <10.0 | 1920 16.0 07/23/2013 ND 416 104 mg/kg Analyzed By: MS Model MS Method Blank BS % Recovery <10.0 | 1920 16.0 07/23/2013 ND 416 104 400 mg/kg Analyzed By: MS Method Blank BS % Recovery True Value QC <10.0 | 1920 16.0 07/23/2013 ND 416 104 400 0.00 mg/kg Analyzed By: MS MS 416 104 400 0.00 Result Reporting Limit Analyzed Method Blank BS % Recovery True Value QC RPD <10.0 |

Sample ID: SB #3 95' (H301715-06)

| Chloride, SM4500Cl-B | mg/kg | | Analyzed By: AP | | | | | | |
|-------------------------------|--------|-----------------|-----------------|--------------|-----|------------|---------------|-------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Chloride | 1120 | 16.0 | 07/23/2013 | ND | 432 | 108 | 400 | 3.77 | |
| TPH 8015M | mg/kg | | Analyzed By: MS | | | | | | |
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| GRO C6-C10 | <10.0 | 10.0 | 07/24/2013 | ND | 173 | 86.7 | 200 | 1.54 | |
| DRO >C10-C28 | <10.0 | 10.0 | 07/24/2013 | ND | 174 | 86.9 | 200 | 0.263 | |
| Surrogate: 1-Chlorooctane | 85.7 | % 65.2-14 | 0 | | | | | | |
| Surrogate: 1-Chlorooctadecane | 105 | % 63.6-15 | 4 | | | | | | |

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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager



Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
 - Chloride by SM4500CI-B does not require samples be received at or below 6°C
 - Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 6 of 6

RDINAL LABORATORIES 101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603 (505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325)673-7020

| Company Name | " ROC | | BILL TO | ANALYSIS REQUEST |
|--|---|--|--|--|
| Project Manage | Pr: Hack Conder | | P.O. #: | |
| Address: | | • | Company: | |
| City: Hobbs | State: NM | Zip: 88240 | Attn: | Ilorides 1 8015 M 3TEX (as TPH Cations/Anions TDS |
| Phone #: | Fax #: | | Address: | |
| Project #: | Project Own | er: | City: | |
| Project Name: | | | State: Zip: | ides TPH S S S |
| - the second sec | BDF-29-1, F-29 | | Phone #: | Chlorides PH 8015 I BTEX Exas TPI Exas TPI TDS TDS |
| Sampler Name: | | ESAREN | Fax #: | |
| FOR LAB USE ONLY | | MATRIX | PRESERV. SAMPLING | |
| Lab I.D. H301715 | Sample I.D. | (G)RAB OR (C)OMP # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL | SLUDGE OTHER : ACIDIBASE: ICE / COOL OTHER : BWLL ALVO | Complete |
| | | | | |
| | SB#1 25' | <u>G1</u> 7 | 7-22-13 11:00 | |
| 2 | 5B#F1 95' | GI | 11:15 | |
| | 58452 25' | | | |
| 3 | with the second s | <u><u>G</u><u>1</u></u> | 2:25 | |
| 4 | 5842 95' | GI / | 2:30 | |
| 5 | 58#3 .30' | | 3:40 | |
| | 58#3 95' | | 3:45 | |
| | | 9 ' | | |
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| Sww (LAW | Time: 25 Coli Henson | Phone Result: |
|--|--|--|
| Relinquished By: | Date: Received By: Time: | email results: zconder@rice-ecs.com Knorman@rice-ecs.com; lpena@riceswd.com |
| Delivered By: (Circle One) Sampler - UPS - Bus - Other: | Sample Condition CHECKED BY: Cool Intact (Infinals) Dryes Pres | Kjones@riceswd.com; Bbaker@rice-ecs.com; hconder@rice-ecs.com; Lweinheimer@rice-ecs.com |

#54

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476



July 26, 2013

KYLE NORMAN Rice Operating Company 112 W. Taylor Hobbs, NM 88240

RE: BD F-29-1, F-29

Enclosed are the results of analyses for samples received by the laboratory on 07/24/13 8:15.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

| Method EPA 552.2 | Haloacetic Acids (HAA-5) |
|------------------|------------------------------|
| Method EPA 524.2 | Total Trihalomethanes (TTHM) |
| Method EPA 524.4 | Regulated VOCs (V1, V2, V3) |

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Whe Smale

Mike Snyder Organic Supervisor



Rice Operating Company KYLE NORMAN 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

| Received: | 07/24/2013 | Sampling Date: | 07/23/2013 |
|-------------------|-----------------|---------------------|---------------|
| Reported: | 07/26/2013 | Sampling Type: | Soil |
| Project Name: | BD F-29-1, F-29 | Sampling Condition: | Cool & Intact |
| Project Number: | NONE GIVEN | Sample Received By: | Jodi Henson |
| Project Location: | NOT GIVEN | | |

Sample ID: SB 4 @ 30' (H301731-01)

| Chloride, SM4500CI-B | mg/kg | | Analyzed By: AP | | | | | | |
|-------------------------------|--------|-----------------|-----------------|--------------|-----|------------|---------------|------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Chloride | 3440 | 16.0 | 07/25/2013 | ND | 416 | 104 | 400 | 0.00 | |
| TPH 8015M | mg/kg | | Analyzed By: MS | | | | | | |
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| GRO C6-C10 | <10.0 | 10.0 | 07/25/2013 | ND | 168 | 84.2 | 200 | 6.00 | |
| DRO >C10-C28 | <10.0 | 10.0 | 07/25/2013 | ND | 173 | 86.4 | 200 | 7.47 | |
| Surrogate: 1-Chloroociane | 83.9 | % 65.2-14 | 0 | | | | | | |
| Surrogate: 1-Chlorooctadecane | 103 % | 63.6-15 | 4 | | | | | | |

Sample ID: SB 4 @ 95' (H301731-02)

| Chloride, SM4500CI-B | mg/kg | | Analyzed By: AP | | | | | | |
|-------------------------------|--------|-----------------|-----------------|--------------|-----|------------|---------------|------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Chloride | 800 | 16.0 | 07/25/2013 | ND | 416 | 104 | 400 | 0.00 | |
| TPH 8015M mg/kg | | /kg | Analyzed By: MS | | | | | | |
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| GRO C6-C10 | <10.0 | 10.0 | 07/25/2013 | ND | 168 | 84.2 | 200 | 6.00 | |
| DRO >C10-C28 | <10.0 | 10.0 | 07/25/2013 | ND | 173 | 86.4 | 200 | 7.47 | |
| Surrogate: 1-Chlorooctane | 75.4 | % 65.2-14 | 0 | | | | | | |
| Surrogate: 1-Chlorooctadecane | 89.7 | % 63.6-15 | 4 | | | | | | |

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mile Singh

Mike Snyder, Organic Supervisor



Rice Operating Company KYLE NORMAN 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

| Received: | 07/24/2013 | Sampling Date: | 07/23/2013 |
|-------------------|-----------------|---------------------|---------------|
| Reported: | 07/26/2013 | Sampling Type: | Soil |
| Project Name: | BD F-29-1, F-29 | Sampling Condition: | Cool & Intact |
| Project Number: | NONE GIVEN | Sample Received By: | Jodi Henson |
| Project Location: | NOT GIVEN | | |

Sample ID: SB 5 @ 35' (H301731-03)

| Chloride, SM4500CI-B | mg/ | kg | Analyze | d By: AP | | | | | |
|-------------------------------|--------|-----------------|------------|--------------|-----|------------|---------------|------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Chloride | 2960 | 16.0 | 07/25/2013 | ND | 416 | 104 | 400 | 0.00 | |
| PH 8015M mg/kg | | kg | Analyze | d By: MS | | | | | |
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| GRO C6-C10 | <10.0 | 10.0 | 07/25/2013 | ND | 168 | 84.2 | 200 | 6.00 | |
| DRO >C10-C28 | <10.0 | 10.0 | 07/25/2013 | ND | 173 | 86.4 | 200 | 7.47 | |
| Surrogate: 1-Chlorooctane | 71.7 | % 65.2-14 | 0 | | | | | | |
| Surrogate: 1-Chlorooctadecane | 84.8 | 63.6-15 | 4 | | | | | | |

Sample ID: SB 5 @ 90' (H301731-04)

| Chloride, SM4500Cl-B | mg, | /kg | Analyze | d By: AP | | | | | |
|-------------------------------|--------|-----------------|------------|--------------|-----|--|---------------|------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Chloride | 960 | 16.0 | 07/25/2013 | ND | 416 | 104 | 400 | 0.00 | |
| TPH 8015M | mg, | /kg | Analyze | d By: MS | | | | | |
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| GRO C6-C10 | <10.0 | 10.0 | 07/25/2013 | ND | 168 | 84.2 | 200 | 6.00 | |
| DRO >C10-C28 | <10.0 | 10.0 | 07/25/2013 | ND | 173 | 86.4 | 200 | 7.47 | |
| Surrogate: 1-Chlorooctane | 75.4 | % 65.2-14 | 0 | | | and a second | | | |
| Surrogate: 1-Chlorooctadecane | 87.5 | % 63.6-15 | 4 | | | | | | |

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*=Accredited Analyte

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mile Singh

Mike Snyder, Organic Supervisor



Analytical Results For:

Rice Operating Company KYLE NORMAN 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

| Received: | 07/24/2013 | Sampling Date: | 07/23/2013 |
|-------------------|-----------------|---------------------|---------------|
| Reported: | 07/26/2013 | Sampling Type: | Soil |
| Project Name: | BD F-29-1, F-29 | Sampling Condition: | Cool & Intact |
| Project Number: | NONE GIVEN | Sample Received By: | Jodi Henson |
| Project Location: | NOT GIVEN | | |

Sample ID: SB 6 @ SURFACE (H301731-05)

| Chloride, SM4500Cl-B | mg, | /kg | Analyze | d By: AP | | | | | |
|-------------------------------|--------|-----------------|------------|--------------|-----|------------|---------------|------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Chloride | 3920 | 16.0 | 07/25/2013 | ND | 416 | 104 | 400 | 0.00 | |
| TPH 8015M | mg, | /kg | Analyze | d By: MS | | | | | |
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| GRO C6-C10 | <10.0 | 10.0 | 07/25/2013 | ND | 168 | 84.2 | 200 | 6.00 | |
| DRO >C10-C28 | <10.0 | 10.0 | 07/25/2013 | ND | 173 | 86.4 | 200 | 7.47 | |
| Surrogate: 1-Chlorooctane | 76.6 | % 65.2-14 | 0 | | | | | | |
| Surrogate: 1-Chlorooctadecane | 89.1 | % 63.6-15 | 4 | | | | | | |

Sample ID: SB 6 @ 35' (H301731-06)

| Chloride, SM4500Cl-B | mg, | /kg | Analyze | d By: AP | | | | | |
|-------------------------------|--------|-----------------|------------|--------------|-----|------------|---------------|------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Chloride | 1960 | 16.0 | 07/25/2013 | ND | 416 | 104 | 400 | 0.00 | |
| TPH 8015M | mg, | /kg | Analyze | d By: MS | | | | | |
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| GRO C6-C10 | <10.0 | 10.0 | 07/25/2013 | ND | 168 | 84.2 | 200 | 6.00 | |
| DRO >C10-C28 | <10.0 | 10.0 | 07/25/2013 | ND | 173 | 86.4 | 200 | 7.47 | |
| Surrogate: 1-Chlorooctane | 79.2 | % 65.2-14 | 0 | | | | | | |
| Surrogate: 1-Chlorooctadecane | 97.7 | % 63.6-15 | 4 | | | | | | |

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*=Accredited Analyte

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Mike Snyder, Organic Supervisor



Analytical Results For:

Rice Operating Company KYLE NORMAN 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

| Received: | 07/24/2013 | Sampling Date: | 07/23/2013 |
|-------------------|-----------------|---------------------|---------------|
| Reported: | 07/26/2013 | Sampling Type: | Soil |
| Project Name: | BD F-29-1, F-29 | Sampling Condition: | Cool & Intact |
| Project Number: | NONE GIVEN | Sample Received By: | Jodi Henson |
| Project Location: | NOT GIVEN | | |

Sample ID: SB 6 @ 95' (H301731-07)

| Chloride, SM4500CI-B | mg, | /kg | Analyze | d By: AP | | - | | | |
|-------------------------------|------------------------|-----------------|------------|--------------|-----|------------|---------------|------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Chloride | 880 | 16.0 | 07/25/2013 | ND | 416 | 104 | 400 | 0.00 | |
| TPH 8015M | mg, | /kg | Analyze | d By: MS | | | | | |
| Analyte | Result Reporting Limit | | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| GRO C6-C10 | <10.0 | 10.0 | 07/25/2013 | ND | 186 | 92.8 | 200 | 5.17 | |
| DRO >C10-C28 | <10.0 | 10.0 | 07/25/2013 | ND | 195 | 97.5 | 200 | 7.65 | |
| Surrogate: 1-Chlorooctane | 65.3 | % 65.2-14 | 0 | | | L _/1/// | | | |
| Surrogate: 1-Chlorooctadecane | 78.5 % 63.6-15 | | 4 | | | | | | |

Sample ID: SB 7 @ 35' (H301731-08)

| Chloride, SM4500CI-B | mg, | kg | Analyze | d By: AP | | | | | |
|-------------------------------|--------|-----------------|------------|--------------|-----|------------|---------------|------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Chloride | 2720 | 16.0 | 07/25/2013 | ND | 416 | 104 | 400 | 0.00 | |
| TPH 8015M | mg | /kg | Analyze | d By: MS | | | | | |
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| GRO C6-C10 | <10.0 | 10.0 | 07/25/2013 | ND | 186 | 92.8 | 200 | 5.17 | |
| DRO >C10-C28 | <10.0 | 10.0 | 07/25/2013 | ND | 195 | 97.5 | 200 | 7.65 | |
| Surrogate: 1-Chlorooctane | 90.4 | % 65.2-14 | 0 | | | | | | |
| Surrogate: 1-Chlorooctadecane | 109 | 63.6-15 | 4 | | | | | | |

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*=Accredited Analyte

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mile Singh

Mike Snyder, Organic Supervisor



Rice Operating Company KYLE NORMAN 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

| Received: | 07/24/2013 | Sampling Date: | 07/23/2013 |
|-------------------|-----------------|---------------------|---------------|
| Reported: | 07/26/2013 | Sampling Type: | Soil |
| Project Name: | BD F-29-1, F-29 | Sampling Condition: | Cool & Intact |
| Project Number: | NONE GIVEN | Sample Received By: | Jodi Henson |
| Project Location: | NOT GIVEN | | |

Sample ID: SB 7 @ 95' (H301731-09)

| Chloride, SM4500Cl-B | mg, | /kg | Analyze | d By: AP | | | | | |
|-------------------------------|--------|-----------------|------------|--------------|-----|------------|---------------|------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Chloride | 624 | 16.0 | 07/25/2013 | ND | 416 | 104 | 400 | 0.00 | |
| TPH 8015M | mg/kg | | Analyze | d By: MS | | | | | |
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| GRO C6-C10 | <10.0 | 10.0 | 07/25/2013 | ND | 186 | 92.8 | 200 | 5.17 | |
| DRO >C10-C28 | <10.0 | 10.0 | 07/25/2013 | ND | 195 | 97.5 | 200 | 7.65 | |
| Surrogate: 1-Chlorooctane | 81.1 | % 65.2-14 | 0 | | | | | | |
| Surrogate: 1-Chlorooctadecane | 95.7 | % 63.6-15 | 4 | | | | | | |

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mite Sigh

Mike Snyder, Organic Supervisor



Notes and Definitions

- ND
 Analyte NOT DETECTED at or above the reporting limit

 RPD
 Relative Percent Difference

 **
 Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.

Chloride by SM4500Cl-B does not require samples be received at or below 6°C

Samples reported on an as received basis (wet) unless otherwise noted on report

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Mike Snyder, Organic Supervisor

Page 7 of 8

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 8 of 8

101 East Marland, Hobbs, NM 88240

| Company Name | : ROC | | 1 | | | | | ANA | LYSIS | RE | QUE | ST | | | |
|------------------------------|---|---|--|--------------------|--------------|--------------|---------------------------------------|-------|-------|-----|----------|--------|---|-----|-----|
| Project Manage | | | P.O. #: | | | | | T | | | | | | | |
| Address: | yie to che when | | Company: | | | . | | | | | | | | | |
| City: | State: | Zip: | Attn: | • | | | | | | | | | | | - I |
| Phone #: | Fax #: | | Address: | | | | | | | | | | 1 | | |
| Project #: | Project Owner | | City: | | | · | | | | | | | | | |
| Project Name: | | | State: Zip: | | ¢ | | | | | | | | | | |
| Project Location | n: BD F-29, F-29 | - T-21-5 R-37-E | Phone #: | | | | | | | | | | | | |
| Sampler Name: | 11 61 114 | Fax #: | | | | | - | | | | | | | | |
| FOR LAB USE ONLY | | MATRIX | PRESERV. SAMPLI | NG | 1 | | | | | | | | | | |
| | | (C)OMP ERS ATER TER | | | | | | | | | | | | : | |
| Labin | Samala I D | A (C) NATI ATEF | | | | H | | | | | | | | | • |
| Lab I.D. | Sample I.D. | B OR UNDW GE | R BAS | | 1 | 0 | 1 | | | | · | | | | |
| 11201721 | | (G)RAB OR (C)ON # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE | OTHER: ACID/BASE: ICE / COOL OTHER : DTHER : | TIME | U | \mathbb{H} | | | 100 | | | | | | |
| H301731 | SB4@ 30' | | X 7-23-13 | 9:50 | N | N | | | | | - C.N | | | | |
| Z | SB4 @ 95' | i k | X | 9.55 | X | 2 | · · · · · · · · · · · · · · · · · · · | | | | - | | | | |
| 3 | 5B 5 @ 35' | I X | | 11:15 | Ŷ | Ŷ | | | | | | | | | |
| - 4 | SB5 Q. 90' | i X | X / | 11:20 | Ŷ | X | | 1 | | | | | | | |
| 5 | SB6 @ surface | | X Z | 2:00 | X | X | | | | | 5. 12 | | | | |
| 6 | SB6 @ 35' | / X / X | Ý ľ | 2:05 | X | X | | | | | | | | | |
| 7 | SB6 @ 95' | / X | | 2:10 | R | X | | | | | | | | | |
| | 587@ 35' | | X) | 3:00 | Ķ | X | | | | | · | | - | | |
| 9 | SB7@ 95' | 1 X | | 3:05 | K | X | | | | | · · _ | - | | | |
| PLEASE NOTE: Liabling | and Damages, Cardinal's liability and client's exclusive remedy for s | ny cleim erising whether based in contrac | ct or tort, shall be ämited to the amount pa | d by the client fo | the | | | | | | | i i an | | | |
| analyses, All claims, includ | ing these for negligence and any other cause whatsoever shall be | deemed walved unless made in writing so | nd received by Cardinal within 30 days and | er completion of t | the applicat | ble : | ar Ar an ar | 1 | | | | | | • . | |
| Relinguished B | Cardinal be table for incidential or consequential damages, including sing gut of or related to the performance of services hereunder by C V: Date? | Received By; | vis based upon any of the above stated re | Phone Re | se, | D Yes | | Add'i | Phone | #. | | | | | |
| KI C | 1/04/13 | | • | Fax Resu REMARK | lt: | C Yes | | Add'l | | | | | | | |
| Me H | hugidt Timen 115 | Simple | | Knorn | manla |) ric | e-ecs | ·con | 5 | : | | | | | |
| Relinquished E | Date 7/24/13 | Received By: | | h cond | or @ | rice | sud.co | , in | | | | | | | |
| 1 +the | Timer: 15 Chellenson 100 | | | | hein | ner (a |) rice | ·ecs | .00- | ~ | | | | | |
| Delivered By | Delivered By: (Circle One) Sample Condition CHECKED BY: Ksch | | | Kschn | aidH | e ri | e-ecs usud.ca) rice ce-ec | 5:00 | m | | | | | | |
| Sampler - UFS | Sampler - UPS - Bus - Other: 3.22 Southers Yes K | | | | es © | rice | swdi | com | | i č | | | | | |
| † Cardina | I cannot accept verbal changes. Pleas | e fax written changes to | 15751 393-2526 | | | | | | | | | | | | |
| | | 4 | 1.74 | | | | | | | | | | | | |



August 27, 2013

Hack Conder Rice Operating Company 112 W. Taylor Hobbs, NM 88240

RE: BD F-29-1, F-29

Enclosed are the results of analyses for samples received by the laboratory on 08/20/13 8:35.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab accredited analytes are denoted by www.tceq.texas.gov/field/qa/lab accredited analytes are denoted by www.tceq.texas.gov/field/qa/lab accredited analytes are denoted analytes are denoted by www.tceq.texas.gov/field/qa/lab accredited analytes are denoted analytes are denoted analytes are denoted analytes and www.tceq.texas.gov/field/qa/lab accredited analytes are denoted analytes analytes are denot

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

| Method EPA 552.2 | Haloacetic Acids (HAA-5) |
|------------------|------------------------------|
| Method EPA 524.2 | Total Trihalomethanes (TTHM) |
| Method EPA 524.4 | Regulated VOCs (V1, V2, V3) |

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celeg D. Keine

Celey D. Keene Lab Director/Quality Manager



Rice Operating Company Hack Conder 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

| Received: | 08/20/2013 | Sampling Date: | 08/19/2013 |
|-------------------|-----------------|---------------------|---------------|
| Reported: | 08/27/2013 | Sampling Type: | Soil |
| Project Name: | BD F-29-1, F-29 | Sampling Condition: | Cool & Intact |
| Project Number: | NONE GIVEN | Sample Received By: | Jodi Henson |
| Project Location: | NOT GIVEN | | |

Sample ID: SB #8 20' (H301978-01)

| Chloride, SM4500CI-B Analyte | mg/kg | | Analyzed By: AP | | | | | | |
|---------------------------------|--------|-----------------|-----------------|--------------|-----|---------------|------------------|------|-----------|
| | Result | Reporting Limit | Analyzed | Method Blank | BS | BS % Recovery | True Value QC | RPD | Qualifier |
| Chloride | 3960 | 16.0 | 08/21/2013 | ND | 416 | 104 | 400 | 3.92 | |
| TPH 8015M | mg/kg | | Analyzed By: MS | | | | | | |
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| GRO C6-C10 | <10.0 | 10.0 | 08/22/2013 | ND | 214 | 107 | 200 | 7.90 | |
| DRO >C10-C28 | <10.0 | 10.0 | 08/22/2013 | ND | 221 | 111 | 200 | 7.69 | |
| Surrogate: 1-Chlorooctane | 93.8 | % 65.2-14 | 0 | | | | 1. 1. 14 f. f. 1 | | |
| Surrogate: 1-Chlorooctadecane | 99.2 | % 63.6-15 | 4 | | | | | | |

Sample ID: SB #8 95' (H301978-02)

| Chloride, SM4500CI-B Analyte | mg/kg | | Analyzed By: AP | | | | | | |
|---------------------------------|--------|-----------------|-----------------|--------------|-----|---------------|---------------|------|-----------|
| | Result | Reporting Limit | Analyzed | Method Blank | BS | BS % Recovery | True Value QC | RPD | Qualifier |
| Chloride | 368 | 16.0 | 08/21/2013 | ND | 416 | 104 | 400 | 3.92 | |
| TPH 8015M | mg/kg | | Analyzed By: MS | | | | | | |
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| GRO C6-C10 | <10.0 | 10.0 | 08/22/2013 | ND | 214 | 107 | 200 | 7.90 | |
| DRO >C10-C28 | <10.0 | 10.0 | 08/22/2013 | ND | 221 | 111 | 200 | 7.69 | |
| Surrogate: 1-Chlorooctane | 81.3 | % 65.2-14 | 0 | | | | | | |
| Surrogate: 1-Chlorooctadecane | 86.9 | % 63.6-15 | 4 | | | | | | |

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*=Accredited Analyte

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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager



Rice Operating Company Hack Conder 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

| Received: | 08/20/2013 | Sampling Date: | 08/19/2013 |
|-------------------|-----------------|---------------------|---------------|
| Reported: | 08/27/2013 | Sampling Type: | Soil |
| Project Name: | BD F-29-1, F-29 | Sampling Condition: | Cool & Intact |
| Project Number: | NONE GIVEN | Sample Received By: | Jodi Henson |
| Project Location: | NOT GIVEN | | |

Sample ID: SB #9 20' (H301978-03)

| Chloride, SM4500CI-B | mg, | /kg | Analyze | d By: AP | | | | | |
|-------------------------------|--------|-----------------|------------|--------------|-----|------------|---------------|------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Chloride | 5200 | 16.0 | 08/21/2013 | ND | 416 | 104 | 400 | 3.92 | |
| TPH 8015M | mg | /kg | Analyze | d By: MS | | | | | |
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| GRO C6-C10 | <10.0 | 10.0 | 08/22/2013 | ND | 214 | 107 | 200 | 7.90 | |
| DRO >C10-C28 | <10.0 | 10.0 | 08/22/2013 | ND | 221 | 111 | 200 | 7.69 | |
| Surrogate: 1-Chlorooctane | 72.4 | % 65.2-14 | 0 | | | | | | |
| Surrogate: 1-Chlorooctadecane | 73.8 | % 63.6-15 | 4 | | | | | | |

Sample ID: SB #9 95' (H301978-04)

| Chloride, SM4500Cl-B | mg | /kg | Analyze | d By: AP | | | | | |
|-------------------------------|--------|-----------------|------------|--------------|-----|------------|---------------|------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Chloride | 512 | 16.0 | 08/21/2013 | ND | 416 | 104 | 400 | 3.92 | |
| TPH 8015M | mg, | /kg | Analyze | d By: MS | | | | | |
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| GRO C6-C10 | <10.0 | 10.0 | 08/22/2013 | ND | 214 | 107 | 200 | 7.90 | |
| DRO >C10-C28 | <10.0 | 10.0 | 08/22/2013 | ND | 221 | 111 | 200 | 7.69 | |
| Surrogate: 1-Chlorooctane | 82.6 | % 65.2-14 | 0 | | | | | • | |
| Surrogate: 1-Chlorooctadecane | 87.6 | % 63.6-15 | 4 | | | | | | |

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Celez D. Kune

Celey D. Keene, Lab Director/Quality Manager



Analytical Results For:

Rice Operating Company Hack Conder 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

| Received: | 08/20/2013 | Sampling Date: | 08/19/2013 |
|-------------------|-----------------|---------------------|---------------|
| Reported: | 08/27/2013 | Sampling Type: | Soil |
| Project Name: | BD F-29-1, F-29 | Sampling Condition: | Cool & Intact |
| Project Number: | NONE GIVEN | Sample Received By: | Jodi Henson |
| Project Location: | NOT GIVEN | | |

Sample ID: SB #10 25' (H301978-05)

| Chloride, SM4500CI-B | mg, | /kg | Analyze | d By: AP | | | | | |
|-------------------------------|--------|-----------------|------------|--------------|-----|------------|---------------|------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Chloride | 1460 | 16.0 | 08/21/2013 | ND | 416 | 104 | 400 | 3.92 | |
| TPH 8015M | mg | /kg | Analyze | d By: MS | | | | | |
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| GRO C6-C10 | <10.0 | 10.0 | 08/22/2013 | ND | 214 | 107 | 200 | 7.90 | |
| DRO >C10-C28 | <10.0 | 10.0 | 08/22/2013 | ND | 221 | 111 | 200 | 7.69 | |
| Surrogate: 1-Chlorooctane | 84.4 | % 65.2-14 | 0 | | | | | | |
| Surrogate: 1-Chlorooctadecane | 91.4 | % 63.6-15 | 4 | | | | | | |

Sample ID: SB #10 65' (H301978-06)

| Chloride, SM4500CI-B | mg, | /kg | Analyze | d By: AP | | | | | |
|-------------------------------|--------|-----------------|------------|--------------|-----|------------|---------------|------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Chloride | 16.0 | 16.0 | 08/21/2013 | ND | 416 | 104 | 400 | 3.92 | |
| TPH 8015M | mg, | /kg | Analyze | d By: MS | | | | | |
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| GRO C6-C10 | <10.0 | 10.0 | 08/22/2013 | ND | 214 | 107 | 200 | 7.90 | |
| DRO >C10-C28 | <10.0 | 10.0 | 08/22/2013 | ND | 221 | 111 | 200 | 7.69 | |
| Surrogate: 1-Chlorooctane | 81.1 | % 65.2-14 | 0 | | | | | | |
| Surrogate: 1-Chlorooctadecane | 85.5 | % 63.6-15 | 4 | | | | | | |

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*=Accredited Analyte

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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager



Rice Operating Company Hack Conder 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

| Received: | 08/20/2013 | Sampling Date: | 08/19/2013 |
|-------------------|-----------------|---------------------|---------------|
| Reported: | 08/27/2013 | Sampling Type: | Soil |
| Project Name: | BD F-29-1, F-29 | Sampling Condition: | Cool & Intact |
| Project Number: | NONE GIVEN | Sample Received By: | Jodi Henson |
| Project Location: | NOT GIVEN | | |

Sample ID: SB #11 25' (H301978-07)

| Chloride, SM4500CI-B | mg, | /kg | Analyze | d By: AP | | | | | |
|-------------------------------|-------------|-----------------|------------|--------------|-----|------------|---------------|------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Chloride | 4080 | 16.0 | 08/21/2013 | ND | 416 | 104 | 400 | 3.92 | |
| TPH 8015M | mg, | /kg | Analyze | d By: MS | | | | | |
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| GRO C6-C10 | <10.0 | 10.0 | 08/22/2013 | ND | 214 | 107 | 200 | 7.90 | |
| DRO >C10-C28 | <10.0 | 10.0 | 08/22/2013 | ND | 221 | 111 | 200 | 7.69 | |
| Surrogate: 1-Chlorooctane | 82.7 | % 65.2-14 | 0 | | | | | | |
| Surrogate: 1-Chlorooctadecane | <i>89.1</i> | % 63.6-15 | 4 | | | | | | |

Sample ID: SB #11 95' (H301978-08)

| Chloride, SM4500Cl-B | mg, | /kg | Analyze | d By: AP | | | | | |
|-------------------------------|--------|-----------------|------------|--------------|-----|------------|---------------|------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Chloride | 640 | 16.0 | 08/21/2013 | ND | 416 | 104 | 400 | 3.92 | |
| TPH 8015M | mg, | /kg | Analyze | d By: MS | | | | | |
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| GR0 C6-C10 | <10.0 | 10.0 | 08/22/2013 | ND | 214 | 107 | 200 | 7.90 | |
| DRO >C10-C28 | <10.0 | 10.0 | 08/22/2013 | ND | 221 | 111 | 200 | 7.69 | |
| Surrogate: 1-Chlorooctane | 81.5 | % 65.2-14 | 0 | | | | | | |
| Surrogate: 1-Chlorooctadecane | 86.9 | % 63.6-15 | 4 | | | | | | |

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*=Accredited Analyte

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Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager



Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500CI-B does not require samples be received at or below 6°C
 Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager

Page 6 of 7

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

ARDINAL LABORATORIES

101 East Mariand, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603 (505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325)673-7020

| Company Name | RICE Operating | | | | | 1923 | | | | A STAR | | | | | | ANA | LYSI | s re | QUE | ST | | | |
|------------------|----------------------|----------|--------------|--------------|---------------------------|--------|--------------|--------------------------|------|----------|-------|-----------|-----|----------|--------|-------------------------|------|----------|-----|----------|---|-------|---------|
| Project Manage | r: Katie Jones | | | | | / | ?.0 . | #: | | | | | | | | | | | | | | 1 . | |
| Address: 112 | | | | | | | Company: | | | | | ł | | S | | · | | | | | | | |
| City: Hobbs | State: NM | Zip | : 88 | 324 | 0 | | Attn: | | | | | l I | | Ы | | | | | | | l | | |
| Phone #: | Fax #: | | | | | A | ١dd | ress: | | | | | | | 1 | Į. | | | | | | | |
| Project #: | Project Owner | r: | | 1 | | | City | : | | | | | Σ | | II | 15 | | | | 1. | | | |
| Project Name: | | | | | | 5 | State | e: | | Zip: | | Chlorides | 2 | × | TPH | l S | | | | · | | | 1 |
| Project Locatio | n: BD F-29 3 F-29-1 | | | - | | F | Pho | ne #: | | | | l č | 801 | BTEX | د ا | li ji | TDS | | Ι. | | | | |
| | Edward Cesareo | | | | | F | ax | # : | | | | 음 | 1 | B | Texas | Ö | | 1 | 1 | | | | |
| FOR LAB USE ONLY | | | Γ | | MATRIX | | P | RESE | ERV. | SAMPL | NG | 1 | Hd | [— · | 6 | e | 1 | | | | | | |
| | | (C)OMP | ŝ | НЦ | œ | | | | | | | | | | | ple | | | | | | | |
| Lab I.D. | Sample I.D. | AB OR (C | # CONTAINERS | GROUNDWATER | WASTEWATER SOIL OIL | SLUDGE | ER: | ACID/BASE: ICE / COOL | ER : | | | | | | | Complete Cations/Anions | | | - | | | | |
| H301978 | BD F-29 3 F-29-1 | Ю Ю | о ж | <u>GR</u> O | SOIL SOIL | SLU | H C | N N | OTH | DATE | TIME | | | | | | | | | | | | |
| | | | Ļ | | | | _ | | | | | | | | | L | | | | | | | |
| | SB# 8 20' | Ŵ | 11 | ⊢ | 1 | | _ | | 1 | 8-19-13 | | | 1/ | | ļ | | | ļ | | L | | | |
| 2 | 5B#8 951 5B#9 201 | C | 1 | | 4 | | _ | | 1 | <u> </u> | 10:20 | | 1/ | L | | | | •. | | | | | |
| 3 | 5849 20' | Ø | | | | | | 1 | 1 | | 1:20 | | / | 1 | | | | | | | | | |
| 4 | SB # 9 95' | G | | | | | | 1 | 1 | | 1:25 | 17 | 1 | | | | | | | | | | . * |
| 5 | 58 JE 10 25' | C | 1 | | | | | 1 | 1 | | 3:00 | | 1/ | | | | | | | | | · · · | |
| | 5B #10 65' | C C | | Γ | | | Τ | 1 | 1 | 17 | 3:05 | 7 | 17 | | 1 | · | | | | 1 | | | |
| 1 | SBAF11 25' | C | 1 1 | Γ | | | | 1 | ł | | 4:10 | 17 | 17 | | | 1 | | 1 | 1 | 1 | 1 | | |
| a | 5B#11 95' | è | | T | | | + | | 1 | | 41:15 | 17 | 17 | [| | | ŀ., | † | - | <u> </u> | | | |
| | | ľ | 1+ | \mathbf{T} | | | - | 1 | + | 1 | | | 1 | 1 | | 1 | | | | 1 | | | |

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| Show Copan | Time: n C | Odi Ser | von | Phone Result: Ves No Add'I Phone #: Fax Result: Yes No Add'I Fax #: REMARKS: | | |
|--|-----------|---|-----|--|--|--|
| Relinquished By: | Date: Re | ceived By: | | email results hconder@rice-ecs.com; Lweinheimer@rice-ecs.com; | | |
| Delivered By: (Circle One) Sampler - UPS - Bus - Other: | | Sample Condition Cool Intact Yes Yes No No | | kjones@riceswd.com; Lpena@riceswd.com; knorman@rice-ecs.com; ecesareo@rice-ecs.com | | |
| + Cardinal cannot accent verbal changes. Please fax written changes to 505-3939476 | | | | | | |

#54

Page 7 of 7



September 03, 2013

KATIE JONES Rice Operating Company 112 W. Taylor Hobbs, NM 88240

RE: BD SYSTEM F-29 & F-29-1

Enclosed are the results of analyses for samples received by the laboratory on 08/27/13 10:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/ga/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

| Method EPA 552.2 | Haloacetic Acids (HAA-5) |
|------------------|------------------------------|
| Method EPA 524.2 | Total Trihalomethanes (TTHM) |
| Method EPA 524.4 | Regulated VOCs (V1, V2, V3) |

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celez D. Keine

Celey D. Keene Lab Director/Quality Manager



Rice Operating Company KATIE JONES 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

| Received: | 08/27/2013 | Sampling Date: | 08/26/2013 |
|-------------------|-------------------------|---------------------|---------------|
| Reported: | 09/03/2013 | Sampling Type: | Soil |
| Project Name: | BD SYSTEM F-29 & F-29-1 | Sampling Condition: | Cool & Intact |
| Project Number: | NONE GIVEN | Sample Received By: | Jodi Henson |
| Project Location: | NOT GIVEN | | |

Sample ID: SB # 12 15' (H302061-01)

| Chloride, SM4500CI-B | mg/ | /kg | Analyze | d By: AP | | | | | |
|-------------------------------|--------|-----------------|------------|--------------|-----|------------|---------------|------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Chloride | 1390 | 16.0 | 08/30/2013 | ND | 400 | 100 | 400 | 3.92 | |
| TPH 8015M | mg | /kg | Analyze | d By: AR/ | | | | | |
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| GRO C6-C10 | <10.0 | 10.0 | 08/30/2013 | ND | 210 | 105 | 200 | 4.91 | |
| DRO >C10-C28 | <10.0 | 10.0 | 08/30/2013 | ND | 205 | 102 | 200 | 5.30 | |
| Surrogate: 1-Chlorooctane | 97.0 | % 65.2-14 | 0 | | | | | | |
| Surrogate: 1-Chlorooctadecane | 98.4 | % 63.6-15 | 4 | | | | | | |

Sample ID: SB # 12 35' (H302061-02)

| Chloride, SM4500Cl-B | mg, | /kg | Analyze | d By: AP | | | | | |
|-------------------------------|--------|-----------------|------------|--------------|-----|------------|---------------|------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Chloride | 160 | 16.0 | 08/30/2013 | ND | 400 | 100 | 400 | 3.92 | |
| TPH 8015M | mg, | /kg | Analyze | d By: AR/ | | | | | |
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| GRO C6-C10 | <10.0 | 10.0 | 08/30/2013 | ND | 210 | 105 | 200 | 4.91 | |
| DRO >C10-C28 | <10.0 | 10.0 | 08/30/2013 | ND | 205 | 102 | 200 | 5.30 | |
| Surrogate: 1-Chlorooctane | 91.3 | % 65.2-14 | 0 | | | | | | |
| Surrogate: 1-Chlorooctadecane | 92.8 | % 63.6-15 | 4 | | | | | | |

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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager



Rice Operating Company KATIE JONES 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

| Received: | 08/27/2013 | Sampling Date: | 08/26/2013 |
|-------------------|-------------------------|---------------------|---------------|
| Reported: | 09/03/2013 | Sampling Type: | Soil |
| Project Name: | BD SYSTEM F-29 & F-29-1 | Sampling Condition: | Cool & Intact |
| Project Number: | NONE GIVEN | Sample Received By: | Jodi Henson |
| Project Location: | NOT GIVEN | | |

Sample ID: SB # 13 20' (H302061-03)

| Chloride, SM4500Cl-B | mg/ | /kg | Analyze | d By: AP | | | | | |
|-------------------------------|--------|-----------------|------------|--------------|-----|------------|---------------|------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Chloride | 1580 | 16.0 | 08/30/2013 | ND | 400 | 100 | 400 | 3.92 | |
| TPH 8015M | mg | /kg | Analyze | d By: AR/ | | | | | |
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| GRO C6-C10 | <10.0 | 10.0 | 08/30/2013 | ND | 210 | 105 | 200 | 4.91 | |
| DRO >C10-C28 | <10.0 | 10.0 | 08/30/2013 | ND | 205 | 102 | 200 | 5.30 | |
| Surrogate: 1-Chlorooctane | 89.6 | % 65.2-14 | 0 | | | | | | |
| Surrogate: 1-Chlorooctadecane | 92.1 | % 63.6-15 | 4 | | | | | | |

Sample ID: SB # 13 45' (H302061-04)

| Chloride, SM4500Cl-B | mg | /kg | Analyze | d By: AP | | | | | |
|-------------------------------|--------|-----------------|------------|--------------|-----|------------|---------------|------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Chloride | 176 | 16.0 | 08/30/2013 | ND | 400 | 100 | 400 | 3.92 | |
| TPH 8015M | mg | /kg | Analyze | d By: AR/ | | | | | |
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| GRO C6-C10 | <10.0 | 10.0 | 08/30/2013 | ND | 210 | 105 | 200 | 4.91 | |
| DRO >C10-C28 | <10.0 | 10.0 | 08/30/2013 | ND | 205 | 102 | 200 | 5.30 | |
| Surrogate: 1-Chlorooctane | 98.7 | % 65.2-14 | 0 | | | | | | |
| Surrogate: 1-Chlorooctadecane | 99.9 | % 63.6-15 | 4 | | | | | | |

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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager



Rice Operating Company KATIE JONES 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

| Received: | 08/27/2013 | Sampling Date: | 08/26/2013 |
|-------------------|-------------------------|---------------------|---------------|
| Reported: | 09/03/2013 | Sampling Type: | Soil |
| Project Name: | BD SYSTEM F-29 & F-29-1 | Sampling Condition: | Cool & Intact |
| Project Number: | NONE GIVEN | Sample Received By: | Jodi Henson |
| Project Location: | NOT GIVEN | | |

Sample ID: SB # 14 20' (H302061-05)

| Chloride, SM4500CI-B | mg/ | kg | Analyze | d By: AP | | | | | |
|-------------------------------|--------|-----------------|------------|--------------|-----|------------|---------------|-------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Chloride | 3240 | 16.0 | 08/30/2013 | ND | 400 | 100 | 400 | 3.92 | |
| TPH 8015M | mg/ | /kg | Analyze | d By: AR/ | | | | | |
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| GRO C6-C10 | <10.0 | 10.0 | 08/31/2013 | ND | 195 | 97.4 | 200 | 0.475 | |
| DRO >C10-C28 | <10.0 | 10.0 | 08/31/2013 | ND | 192 | 96.0 | 200 | 0.588 | |
| Surrogate: 1-Chlorooctane | 90.9 | % 65.2-14 | 0 | | | | | | |
| Surrogate: 1-Chlorooctadecane | 94.4 | % 63.6-15 | 4 | | | | | | |

Sample ID: SB # 14 95' (H302061-06)

| Chloride, SM4500CI-B | mg | /kg | Analyze | d By: AP | | 101 | | | |
|-------------------------------|--------|-----------------|------------|--------------|-----|------------|---------------|-------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Chloride | 735 | 16.0 | 08/30/2013 | ND | 400 | 100 | 400 | 3.92 | |
| TPH 8015M | mg, | /kg | Analyze | d By: AR/ | | | | | |
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| GRO C6-C10 | <10.0 | 10.0 | 08/31/2013 | ND | 195 | 97.4 | 200 | 0.475 | |
| DRO >C10-C28 | <10.0 | 10.0 | 08/31/2013 | ND | 192 | 96.0 | 200 | 0.588 | |
| Surrogate: 1-Chlorooctane | 106 | % 65.2-14 | 0 | | | | | | |
| Surrogate: 1-Chlorooctadecane | 109 | % 63.6-15 | 4 | | | | | | |

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Celez D. Kune

Celey D. Keene, Lab Director/Quality Manager



Rice Operating Company KATIE JONES 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

| Received: | 08/27/2013 | Sampling Date: | 08/26/2013 |
|-------------------|-------------------------|---------------------|---------------|
| Reported: | 09/03/2013 | Sampling Type: | Soil |
| Project Name: | BD SYSTEM F-29 & F-29-1 | Sampling Condition: | Cool & Intact |
| Project Number: | NONE GIVEN | Sample Received By: | Jodi Henson |
| Project Location: | NOT GIVEN | | |

Sample ID: SB # 15 25' (H302061-07)

| Chloride, SM4500CI-B | mg, | /kg | Analyze | d By: AP | _ | | | | |
|-------------------------------|--------|-----------------|------------|--------------|-----|------------|---------------|-------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Chloride | 3600 | 16.0 | 08/30/2013 | ND | 400 | 100 | 400 | 3.92 | |
| TPH 8015M | mg | /kg | Analyze | d By: AR/ | | | | | |
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| GRO C6-C10 | <10.0 | 10.0 | 08/31/2013 | ND | 195 | 97.4 | 200 | 0.475 | |
| DRO >C10-C28 | <10.0 | 10.0 | 08/31/2013 | ND | 192 | 96.0 | 200 | 0.588 | |
| Surrogate: 1-Chlorooctane | 103 | % 65.2-14 | 0 | | | | | | |
| Surrogate: 1-Chlorooctadecane | 106 | % 63.6-15 | 4 | | | | | | |

Sample ID: SB # 15 95' (H302061-08)

| Chloride, SM4500CI-B | mg, | /kg | Analyze | d By: AP | | | | | |
|-------------------------------|--------|-----------------|------------|--------------|-----|------------|---------------|-------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Chloride | 608 | 16.0 | 08/30/2013 | ND | 400 | 100 | 400 | 3.92 | |
| TPH 8015M | mg, | /kg | Analyze | d By: AR/ | | | | | |
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| GRO C6-C10 | <10.0 | 10.0 | 08/31/2013 | ND | 195 | 97.4 | 200 | 0.475 | |
| DRO >C10-C28 | <10.0 | 10.0 | 08/31/2013 | ND | 192 | 96.0 | 200 | 0.588 | |
| Surrogate: 1-Chlorooctane | 103 | % 65.2-14 | 0 | | | | | | |
| Surrogate: 1-Chlorooctadecane | 106 | % 63.6-15 | 4 | | | | | | |

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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

| S-06 | The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's. |
|-------|--|
| S-04 | The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect. |
| QM-07 | The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery. |
| ND | Analyte NOT DETECTED at or above the reporting limit |
| RPD | Relative Percent Difference |
| ** | Samples not received at proper temperature of 6°C or below. |
| *** | Insufficient time to reach temperature. |
| - | Chloride by SM4500CI-B does not require samples be received at or below 6°C |
| | Samples reported on an as received basis (wet) unless otherwise noted on report |

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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 7 of



RDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603 (505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325)673-7020

| Company Name | RICE Ope | erating | | | | | | 110.00 | | | 1 | A. C. | | | | | | ANAL | YSIS | RE | QUE | ST | | | |
|--|----------|--------------|---------|--------------|-------------|--------------------|--------|-----------|-----------------------|-----------|---------|---------|-----------|----------|----------|-----|-------|----------------|----------|---------|-----|---------|-------|-------|-------------|
| Project Manage | | | | | | | | P | P.O. # | t: | | | | | | | - | | | | | | · · · | | |
| Address: 112 | | | | | | | | c | omp | any | : | | · | - 1- 1 | | | | ŝ | | ••• | . т | | • | | |
| City: Hobbs | | State: NM | Zip | : 88 | 324 | 0 | | A | ttn: | | | | | i. | | | | Cations/Anions | | | | ан 1 | | | 1. a. 1. 11 |
| Phone #: | | Fax #: | | | | | | A | ddre |)\$S: | | | | | | | | L L | | | | | | · · . | |
| Project #: Project Owner: | | | | | | | | c | ity: | | | - | · _ | | Σ | | I | s/ł | | | | | | | · . |
| Project Name: | | | | | | | s | tate: | | - | Zip: | - | <u>ě</u> | 15 | × | TPH | - U | | | | | | | | |
| Project Location: BD SYSTEM F-29 \$ F-29-1 | | | | | | | P | hon | e #: | | | | Chlorides | 801 | BTEX | L S | ati | TDS | | | | | | 1 | |
| Sampler Name: | | | | | | , | | F | ax # | : | - | | | 듣 | | Ш | Texas | Ö | = | | | | · 1 | | |
| FOR LAB USE ONLY | | · · | Τ. | Γ | | MA | TRIX | | PR | ESE | RV. | SAMPLI | NG | ច | Ηd | | e l | e. | | | | | | | |
| | | | OMP | | Ř | | | : | | | | | | | | | ' | e l | | | | | ŀ I | | |
| | | | l ĝ | Ë | VATE | THE | | | | | | | | | | | | Complete | | | | | | | |
| Lab I.D. | · Sa | ample I.D. | 10 0 | Ž | ğ | E W | | | SAS | lõ | 2 | | | | - | | | 8 | | | | | | | |
| H302061 | 80 | F-293 F-29-1 | (G)RAB | # CONTAINERS | GROUNDWATER | WASTEWATER SOIL | ы б | SLUDGE | OTHER : ACID/BASE: | ICE / O | OTHER : | DATE | TIME | | - | | | | | | | | | | |
| | SB#12 | 15' | G | 1 | | / | 1 | | | / | | 8-26-13 | 11:15 | / | / | | | | | | | | | • | |
| | 5B井12 | 35' | Q | | | / | | | | 1/ | | (| 11:20 | / | <u>[</u> | | | | | · | | | | | |
| 3 | 5B#B | 20' | 0 | | | | | | | | Ľ | L | 12:05 | | | | | | | | | | | | |
| V. | SB#B | 45' | 0 | | | | | | | 12 | Ľ | | 12:10 | | 4 | · . | | | <u> </u> | ļ | | | | | |
| . 3 | 3B#14 | 20' | 0 | | | | | | | | |) | 3:30 | \leq | 4 | | | | L | | ļ | | | | <u> </u> |
| 6 | 5B#14 | 95' | 0 | | | | 1 | | | arproptom | | (- | 3:35 | 12 | 4 | | | | <u> </u> | | | | L | | ļ |
| | SBATIS | | 0 | 1 | 1 | | 11 | | · | 1 | | _(| 5:00 | | | | | | <u> </u> | · | | | ļ | | |
| | 5B#15 | 95' | Q | 4+ | | | 1 | | | | 1 | | 5:05 | | | | ļ | | ļ | | ļ | | ļ | | L |
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based in contract or tort, shall be limited to the amount paid by the client for the PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive ramedy for any d and waived unless made in writing and received by Cardinal within 30 days after completion of the applicable analyses. All claims including those for negligence and any other cause whatsoever shall be de service. In no event shell Cardinal be liable for incidental or consequental damages, including without limitation, business interruption loss of use or loss of profits incurred by alent. Its subsi

| stances in successors missing out of or related to the perior trance | JI BOI HOGS THEIGUINGET OF O | HUNNE, TOYOTO | | | | | | |
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| Land obuno | $H \mathcal{U}$ | LALA | | | | | | |
| Relinguished By: | Date: | Ruceiv | ed By: | | email res | ults | | |
| | | V. | | · · · · · · | | | | |
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| Delivered By: (Circle One) | | | Sample Condition | CHECKED BY: | | | | • • |
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| Sampler - UPS - Bus - Other: | | | Yes Yes | | 1 anonio ang | 9 | | , 000000 |
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| | | | | | | | | |

m; Lweinheimer@rice-ecs.com; Lpena@riceswd.com;

om; ecesareo@rice-ecs.com

+ Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476



September 03, 2013

KATIE JONES Rice Operating Company 112 W. Taylor Hobbs, NM 88240

RE: BD F-29-1, F-29

Enclosed are the results of analyses for samples received by the laboratory on 08/27/13 16:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab accredited certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

| Method EPA 552.2 | Haloacetic Acids (HAA-5) |
|------------------|------------------------------|
| Method EPA 524.2 | Total Trihalomethanes (TTHM) |
| Method EPA 524.4 | Regulated VOCs (V1, V2, V3) |

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celez D. Keine

Celey D. Keene Lab Director/Quality Manager



Analytical Results For:

Rice Operating Company KATIE JONES 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

| Received: | 08/27/2013 | Sampling Date: | 08/27/2013 |
|-------------------|-----------------|---------------------|---------------|
| Reported: | 09/03/2013 | Sampling Type: | Soil |
| Project Name: | BD F-29-1, F-29 | Sampling Condition: | Cool & Intact |
| Project Number: | NONE GIVEN | Sample Received By: | Jodi Henson |
| Project Location: | NOT GIVEN | | |

Sample ID: SB #16 25' (H302067-01)

| Chloride, SM4500CI-B | mg, | /kg | Analyze | d By: AP | | | | | |
|-------------------------------|--------|-----------------|------------|--------------|-----|------------|---------------|-------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Chloride | 4560 | 16.0 | 09/03/2013 | ND | 416 | 104 | 400 | 0.00 | |
| TPH 8015M | mg, | /kg | Analyze | d By: AR/ | | | | | |
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| GRO C6-C10 | <10.0 | 10.0 | 08/31/2013 | ND | 195 | 97.4 | 200 | 0.475 | |
| DRO >C10-C28 | <10.0 | 10.0 | 08/31/2013 | ND | 192 | 96.0 | 200 | 0.588 | |
| Surrogate: 1-Chlorooctane | 92.0 | % 65.2-14 | 0 | | | | | | |
| Surrogate: 1-Chlorooctadecane | 95.8 | % 63.6-15 | 4 | | | | | | |

Sample ID: SB #16 95' (H302067-02)

| Chloride, SM4500CI-B | mg, | /kg | Analyze | d By: AP | | | | | |
|-------------------------------|--------|-----------------|------------|--------------|-----|------------|---------------|-------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Chloride | 896 | 16.0 | 09/03/2013 | ND | 416 | 104 | 400 | 0.00 | |
| TPH 8015M | mg, | /kg | Analyze | d By: AR/ | | | | | |
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| GRO C6-C10 | <10.0 | 10.0 | 08/31/2013 | ND | 195 | 97.4 | 200 | 0.475 | |
| DRO >C10-C28 | <10.0 | 10.0 | 08/31/2013 | ND | 192 | 96.0 | 200 | 0.588 | |
| Surrogate: 1-Chlorooctane | 102 | % 65.2-14 | 0 | | | | | | |
| Surrogate: 1-Chlorooctadecane | 106 | % 63.6-15 | 4 | | | | | | |

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*=Accredited Analyte

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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager



Rice Operating Company KATIE JONES 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

| Received: | 08/27/2013 | Sampling Date: | 08/27/2013 |
|-------------------|-----------------|---------------------|---------------|
| Reported: | 09/03/2013 | Sampling Type: | Soil |
| Project Name: | BD F-29-1, F-29 | Sampling Condition: | Cool & Intact |
| Project Number: | NONE GIVEN | Sample Received By: | Jodi Henson |
| Project Location: | NOT GIVEN | | |

Sample ID: SB #17 20' (H302067-03)

| Chloride, SM4500Cl-B | mg, | /kg | Analyze | d By: AP | | | | | |
|-------------------------------|--------|-----------------|------------|--------------|-----|------------|---------------|-------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Chloride | 1710 | 16.0 | 09/03/2013 | ND | 416 | 104 | 400 | 0.00 | |
| TPH 8015M | mg, | /kg | Analyze | d By: AR/ | | | | | |
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| GRO C6-C10 | <10.0 | 10.0 | 08/31/2013 | ND | 195 | 97.4 | 200 | 0.475 | |
| DRO >C10-C28 | <10.0 | 10.0 | 08/31/2013 | ND | 192 | 96.0 | 200 | 0.588 | |
| Surrogate: 1-Chlorooctane | 95.5 | % 65.2-14 | 0 | | | | | | |
| Surrogate: 1-Chlorooctadecane | 97.1 | % 63.6-15 | 4 | | | | | | |

Sample ID: SB #17 35' (H302067-04)

| Chloride, SM4500Cl-B | mg | /kg | Analyze | d By: AP | | | | | |
|-------------------------------|--------|-----------------|------------|--------------|-----|------------|---------------|-------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Chloride | 128 | 16.0 | 09/03/2013 | ND | 416 | 104 | 400 | 0.00 | |
| TPH 8015M | mg, | /kg | Analyze | d By: AR/ | | | | | |
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| GRO C6-C10 | <10.0 | 10.0 | 08/31/2013 | ND | 195 | 97.4 | 200 | 0.475 | |
| DRO >C10-C28 | <10.0 | 10.0 | 08/31/2013 | ND | 192 | 96.0 | 200 | 0.588 | |
| Surrogate: 1-Chlorooctane | 98.4 | % 65.2-14 | 0 | | | | | | |
| Surrogate: 1-Chlorooctadecane | 101 | % 63.6-15 | 4 | | | | | | |

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*=Accredited Analyte

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Celez D. Kune

Celey D. Keene, Lab Director/Quality Manager



Rice Operating Company KATIE JONES 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-1471

| Received: | 08/27/2013 | Sampling Date: | 08/27/2013 |
|-------------------|-----------------|---------------------|---------------|
| Reported: | 09/03/2013 | Sampling Type: | Soil |
| Project Name: | BD F-29-1, F-29 | Sampling Condition: | Cool & Intact |
| Project Number: | NONE GIVEN | Sample Received By: | Jodi Henson |
| Project Location: | NOT GIVEN | | |

Sample ID: SB #18 25' (H302067-05)

| Chloride, SM4500Cl-B | mg, | /kg | Analyze | d By: AP | | | | | |
|-------------------------------|--------|-----------------|------------|--------------|-----|------------|---------------|-------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Chloride | 1920 | 16.0 | 09/03/2013 | ND | 416 | 104 | 400 | 0.00 | |
| TPH 8015M | mg, | /kg | Analyze | d By: AR/ | | | | | |
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| GRO C6-C10 | <10.0 | 10.0 | 08/31/2013 | ND | 195 | 97.4 | 200 | 0.475 | |
| DRO >C10-C28 | <10.0 | 10.0 | 08/31/2013 | ND | 192 | 96.0 | 200 | 0.588 | |
| Surrogate: 1-Chlorooctane | 87.7 | % 65.2-14 | 0 | | | | | | |
| Surrogate: 1-Chlorooctadecane | 89.2 | % 63.6-15 | 4 | | | | | | |

Sample ID: SB #18 55' (H302067-06)

| Chloride, SM4500Cl-B | mg, | /kg | Analyze | d By: AP | | | | | | |
|-------------------------------|-------------|-----------------|------------|--------------|--------------|------------|---------------|-------|-----------|--|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier | |
| Chloride | 160 | 16.0 | 09/03/2013 | ND | 416 | 104 | 400 | 0.00 | | |
| TPH 8015M | mg, | /kg | Analyze | d By: AR/ | | | | | | |
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier | |
| GRO C6-C10 | <10.0 | 10.0 | 08/31/2013 | ND | 195 | 97.4 | 200 | 0.475 | | |
| DRO >C10-C28 | <10.0 | 10.0 | 08/31/2013 | ND | 1 9 2 | 96.0 | 200 | 0.588 | | |
| Surrogate: 1-Chlorooctane | 95.6 | % 65.2-14 | 0 | | | | | | | |
| Surrogate: 1-Chlorooctadecane | <i>99.3</i> | % 63.6-15 | 4 | | | | | | | |

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*=Accredited Analyte

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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

| QM-07 | The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery. |
|-------|--|
| ND | Analyte NOT DETECTED at or above the reporting limit |
| RPD | Relative Percent Difference |
| ** | Samples not received at proper temperature of 6°C or below. |
| *** | Insufficient time to reach temperature. |
| - | Chloride by SM4500CI-B does not require samples be received at or below 6°C |
| | Samples reported on an as received basis (wet) unless otherwise noted on report |

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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 6 of 6

ARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603 (505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325)673-7020

| Company Name: RICE Operating | | | | | | | | | ANALYSIS REQUEST | | | | | | | | | | | | |
|---|--|-----------------------|--------------|--|-------------|-------|---|------------------------------|--------------------------------|------------------|--------------|-----|----------------|----------|----------|---|----------|----------|---|---|---|
| Project Manager: Katie Jones | | | | | P.O. #: | | | | | | | S | | | | | | | | | |
| | | | | | Company: | | | | | | | | | | | | | | | | |
| City: Hobbs | State: NM | Zip: | 882 | 240 | Attn: | | | | | | | or | | | | | | | | | |
| Phone #: | Fax #: | | | | Address: | | | | | | | | An. | | | | | | 1 | | |
| Project #: | | | | | | City: | | | 6 | Σ | | I | s! | | | | 1. J. J. | | | | |
| Project Name: | | | | | State: Zip: | | | | je | 15 | × | TPH | Cations/Anions | | . • • | | | | | | |
| Project Location: BD F-293 F-29-1 T-21-5 / R-37-E | | | | | Phone #: | | | | Chlorides | 801 | BTEX | S | ati | TDS | | | | | | | |
| Sampler Name: | Edward Cesareo | | | | Fax#: | | | | Ц | | 6 | xa | | ¦.⊢∸. | | | | | | | |
| FOR LABUSE ONLY | Sample I.D. BD F-293 F-29-1 T-2+5/837-6 | (G)RAB OR (C)OMP. | # CONTAINERS | GROUNDWATER WASTEWATER SOIL OIL SLUDGE | | | T | DATE | NG TI M E | Ċ, | HdT | - | Texas | Complete | | | | | | | |
| | 58#16 25' | G | l | | | 1 | | 8-27-13 | 10115 | \geq | \mathbf{N} | | | | | | | | | | |
| 2 | 58#16 95' | 6 | 1 | | | 11 | _ | | 10:20 | \angle | 1 | | | | | | | | | | · |
| q | SB#17 20' SB#17 35' SB#18 25' SB#18 55' | 9 9 9 9 9 | | | | | | $\left\langle \right\rangle$ | 11:40 11:45 2:50 2:55 | 7 7 7 7 | | ۲ | | • | | | | | | | |
| | | | | | <u>}.</u> | | ┛ | | | 1 | i | L | L | I | L | I | L | 1 | L | L | |

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| Relinguished By: | Date - 27-12 Repeived By: | Phone Result: I Yes I No Add'I Phone #: Fax Result: I Yes I No Add'I Fax #: |
|------------------------------|------------------------------|---|
| Elun Com | Tig. 00 Oak Henson | REMARKS: |
| Relinquished By: | Date: Received By: | email results |
| | Time: | hconder@rice-ecs.com; Lweinheimer@rice-ecs.com; |
| | | kjones@riceswd.com; Lpena@riceswd.com; |
| Delivered By: (Circle One) | Sample Condition CHECKED BY: | |
| Sampler - UPS - Bus - Other: | 4.8°C Dres (Malals) | knorman@rice-ecs.com; ecesareo@rice-ecs.com |

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