

BAM Permian Operating
University Roland #1
 SEC. 42, BLK. 30 ULS
 Crane CO., TX
 API #: 42-103-36600
 PERMIT #: 839995

06/20/18: Begin MIRU Sendero Rig 10 from 30 miles west of Pecos to University Roland #1 With Trans Pecos Trucking on Tuesday 06/19/2018.

DWC: \$279,186

CWC:\$279,186

06/21/18: MIRU Sendero Rig 10 from 30 miles west of Pecos to University Roland #1 With Trans Pecos Trucking.

DWC: \$2,346

CWC:\$281,532

06/22/18: Rig up backyard, pump, out-lying, electrical, gas buster, trash pump, mud house, rig floor, hang tongs, rig down bridle line, pick up kelly spinner, double pin, upper TIW and kelly, install hydro-matic, Start welding on conductor at 00:00.

DWC: \$14,438

CWC:\$295,970

DMC: \$1,603

CMC:\$1,603

06/23/18: Day 1, Depth 608' Footage: 568', PRESENT OPS: Drilling at 608', TIME: 11 1/2 Rig up, Drilling 11, Repairs: 1 1/2. **Bit #1** 17 1/2 Ulterra CF 616 ,SN 38323, 9x15, In: 40' Out: Footage 570', Hrs: 11.5, ROP 45.5 fph. **BHA:** Bit, BS, IBS, 8" PONY DC, IBS, FLO DRIFT, 8" DC, IBS, 8" DC, XO, 15- 6" DC. (561.12'). **Mud:** Mw: 9 Vis: 35,. **Surveys:** 250' 0.40°, 500' 0.60°. **Remarks:** 0600 3 hrs. Rig up Pason lines, finish getting pumps ready. 09:00 2 hrs. Install kelly spinner air lines and trouble shoot, tighten all breaks above kelly. 11:00 2 1/2 hrs. Strap and PU BHA. Adjust brakes, change tong dies, and service rig. 13:30 4 hrs. Pump through #1 and #2 pumps, tighten up leaks on #2 pump and stand pipe in sub. PU bit and BHA, make up and TIH. 17:30 1/2 hrs. Spud 17:30 hrs. 06/22/18 and drill from 40' to 70'. 18:00 6 1/2 hrs. Drlg f/70' to 432'. 00:30 1 1/2 hrs. Repair stand pipe leak replace bad gasket. 02:00 4 hrs. Drlg f/ 432' to 608'.

DWC: \$32,308

CWC:\$328,278

DMC: \$2,456

CMC:\$4,059

06/24/18: Day 2, Depth 715' Footage: 107', Present Operation: Cut off casing: TIME: RU/RD: 1, Drilling 2 1/2, Trip 3 1/2, Run Casing 3 1/2, Cement 3 1/2, WOC 4, Cut off 4, Circulate and condition 2. **Bit: #1** 17 1/2 Ulterra CF 616 ,SN 38323, 9x15, In: 40' Out:715' Footage 675', Hrs: 15, ROP 45 fph. **BHA:** Bit, BS, IBS, 8" PONY DC, IBS, FLO DRIFT, 8" DC, IBS, 8" DC, XO, 15- 6" DC. (561.12'). **Mud:** Mw: 9 Vis: 35, pH 9. **Surveys:** **Remarks:** 0600 2 1/2 hrs. Drill f/ 608' to 715'. 08:30 1 1/2 hrs. Circulate pumped sweep out. 10:00 2 hrs. Set kelly back and TOH. 12:00 1 1/2 hrs. Break BHA and LD. 13:30 1 hrs. Rig up lay down machine and casing crew. 14:30 2 1/2 hrs. Run 17jts of 13 3/8" 48#, H-40 STC casing, 715' total pipe and set at 705'. 17:00 1/2 hrs. Rig down casing crew and lay down machine. 17:30 1/2 hrs. Circulate casing with rig pump. 18:00 1 hrs. RU Compass cementers and hold pre job safety meeting. 19:00 2 1/2 hrs. Cement casing. Plug down at 20:45 hrs. 06/23/18. Rig down cementers. 21:30 4 hrs. Wait on cement. 01:30 4 1/2 hrs. Cut off casing and weld on wellhead.

1 Float Shoe	1.85'
1 jts 13 3/8" 53.50# J-55 STC EUE 8rd	42.09'
1 Float Collar	1.70'
<u>16 jts 13 3/8" 48# H-40 STC EUE 8rd</u>	<u>673.09'</u>
17 jts	718.73'
Total Casing	718.73'
Less above KB	<u>-13.73'</u>
Casing set at	705.00'
Cut off jt 30.06'	

Cement casing with Compass cementers as follows:

Pump 20 bbls FW spacer followed by:

Lead cement: 180 sx (73.4 bbls) Cl C 85:0:5, +5% gel+5.25 #/sk salt+1.25% C-45 Econolite+5#/sk Kol Seal,+ 0.25% C-503P De foamer, 50% excess, mixed at 12.40 ppg, 2.29 ft3/sk, 12.63 H2O

Tail cement: 260 sx (62.1 bbls) CL C 100:0:0 +2% CaCl+0.10% C-45 Econolite, mixed at 14.8 ppg, 1.34 ft3/sk, 6.35 gps water. Pumped 105 bbls displacement. Bump plug with 500 psi over circulating pressure to 926 psi. Bleed

back ½ bbls and floats held ok. Plug down at 20:45 hrs. 06/23/18 Circulated 40 bbls or 98 sks to reserve. Top of cement: surface.

DWC: \$79,124
DMC: \$0

CWC: \$407,402
CMC: \$4,059

06/25/18: Day 3, Depth 715' Footage: 0', PRESENT OPS: Test casing and tighten DSA. TIME: Trip 5 ½, Rig Repair 7 ½, NU/ND: 9, Test BOP and casing: 1, Clean floor: 1 **Bit #2** 11" Ultrerra U616S ,SN 37753, 9x14, In: 715' Out: Footage 0', Hrs: 0, ROP 0 fph . **BHA:** Bit, BS, RMR (1/8), 8" PONY DC, RMR (1/4), FLO DRIFT, 8" DC, RMR (1/4), 8" DC, XO,19- 6" DC. (679.28'). **Mud:** Mw: 9.8 Vis: 28, pH: 8.0, CI- 150,000. **Surveys: Remarks:** 06:00 5 ½ hrs. Plumb in accumulator. Take bolts off bottom of BOP, install spacer spool, cut off 4 bolts on anaconda line and install new bolts and tightened. 11:30 6 ½ hrs. NU BOP. 18:00 2 hrs. NU accumulator hydraulic line, flow line, fill-up line, cellar cover. 20:00 1 hrs. Clean trip hazards from floor, lay down cement head, PU elevators, tongs, pick up line and strap BHA. 21:00 2 hrs. Wait on electrician, motor on accumulator was bad. 23:00 ½ hrs. Test BOP 250 psi low and 1,000 psi high. 23:30 5 hrs. PU BHA and trip in hole. 04:30 ½ hrs. Lay down 1- 6" drill collar, PU kelly. 05:00 ½ hrs. Break circulation and test casing 250 psi low and 1,000 psi high. 05:30 ½ hrs. Tighten DSA.

DWC: \$35,725
DMC: \$1,687

CWC:\$443,127
CMC:\$5,746

06/26/18: Day 4, Depth 1,834' Footage: 1,119', PRESENT OPS: Drilling. TIME: Drilling: 19 ½, Service rig: ½, Drill shoe track: 2 ½, NU/ND: 1, Test BOP/Casing: ½, **Bit #2** 11" Ultrerra U616S ,SN 37753, 9x14, In: 715' Out: Footage 1,119', Hrs: 19.5, ROP 57 fph . **BHA:** Bit, BS, RMR (1/8), 8" PONY DC, RMR (1/4), FLO DRIFT, 8" DC, RMR (1/4), 8" DC, XO,19- 6" DC. (679.28'). **Mud:** Mw: 9.8 Vis: 28, pH: 8.0, CI- 150,000. **Surveys:** 885' 0.20°, 1,137' 0.30°, 1,359' 0.0, 1,613' 0.30°. **Remarks:** 06:00 1 hrs. Tighten bolts on DSA. 07:00 ½ hrs. Test casing to 500 psi. 07:30 2 ½ hrs. Drill float collar and shoe. 10:00 ½ hrs. Rig service. 10:30 7 ½ hrs. Drlg f/705' to 1,137' WOB 12-18, RPM 85, PP: 441 psi, GPM 380. 18:00 12 hrs. Drlg f/ 11,37' to 1,834'.

DWC: \$24,666
DMC: \$0

CWC: \$467,793
CMC: \$5,746

06/27/18: Day 5, Depth 2,839' Footage: 1,005', PRESENT OPS: Drilling. TIME: Drilling: 22, Service rig: ½, Install Rotating head: 1 ½. **Bit #2** 11" Ultrerra U616S ,SN 37753, 9x14, In: 705' Out: Footage 2,134', Hrs: 41.5, ROP 37 fph . **BHA:** Bit, BS, RMR (1/8), 8" PONY DC, RMR (1/4), FLO DRIFT, 8" DC, RMR (1/4), 8" DC, XO,19- 6" DC. (679.28'). **Mud:** Mw: 9.8 Vis: 28, pH: 8.0, CI- 150,000. **Surveys:** 1,863' 0.80°, 2,119' 1.10°, 2,370' 1.10°, 2,624' 1.00°. **Remarks:** 06:00 4 hrs. Drlg f/ 1,865; to 2,055'. 10:00 1 hrs. Install rotating head. 11:00 6 ½ hrs. Drlg f/ 2,055' to 2,338'. 17:30 ½ hrs. Rig service. 18:00 8 hrs. Drlg f/2,338' to 2,699'. 02:00 ½ hrs. Run out of fluid and work on #1 pump. 02:30 3 ½ hrs. Drlg f/ 2,699' to 2,839', WOB 28-32, RPM 85, PP: 1100 psi, GPM 400.

DWC: \$31,561
DMC: \$0

CWC: \$499,355
CMC: \$5,746

06/28/18: Day 6, Depth 3,760' Footage: 921', PRESENT OPS: Drilling. TIME: Drilling: 23, Service rig: ½, Rig Repair: ½. **Bit #2** 11" Ultrerra U616S, SN 37753, 9x14, In: 705' Out: Footage 3,055', Hrs: 64.5, ROP 47 fph . **BHA:** Bit, BS, RMR (1/8), 8" PONY DC, RMR (1/4), FLO DRIFT, 8" DC, RMR (1/4), 8" DC, XO,19- 6" DC. (679.28'). **Mud:** Mw: 10 Vis: 29, pH: 9.0, CI- 180,00 Solids 11%, Calcium 1800/340. **Surveys:** 2,905' 1.10°, 3,150' 0.80°, 3,443' 1.10°, 3,697' 0.90°. **Remarks:** 06:00 7 ½ hrs. Drlg f/ 2,854' to 3,127'. 13:30 ½ hrs. Repair air lines in draw works. 14:00 3 ½ hrs. Drlg f/ 3,127' to 3,222'. 17:30 ½ hrs. Rig service. 18:00 12 hrs. Drlg f/3,222' to 3,760'. WOB 28-36, RPM 85 -90, PP: 1450 psi, GPM 625. ROT 120 PU 125 SO 115.

DWC: \$28,271
DMC: \$4,202

CWC: \$527,626
CMC: \$9,948

06/29/18: Day 7, Depth 3,919' Footage: 159', PRESENT OPS: Rig Down Cementers. TIME: Drilling: 6, Service rig: ½, Trip: 7, Run casing: 6, Cement: 2, Clean Floor: 1/2, Circulate: 2. **Bit #2** 11" Ultrerra U616S, SN 37753, 9x14, In: 705' Out: 3,919 Footage 3,214', Hrs: 69, ROP 45.6 fph . **BHA:** Bit, BS, RMR (1/8), 8" PONY DC, RMR (1/4), FLO DRIFT, 8" DC,

RMR (1/4), 8" DC, XO, 19- 6" DC. (679.28'). **Mud:** Mw: 10 Vis: 29, pH: 9.0, Cl- 180,00 Solids 11%, Calcium 1800/340. **Surveys:** 3,887' 1.0°, **Remarks:** 06:00 4 ½ hrs. Drlg f/ 3,760' to 3,919'. 10:30 1½ hrs. Circulate and condition for casing. 12:00 4 ½ hrs. TOH. 16:30 ½ hrs. Rig service. 17:30 1 hrs. RU lay down machine to LD 8" DC's and BHA. 18:00 1 ½ hrs. Lay down BHA. 19:30 ½ hrs. Clean floor. 20:00 1 hrs. RU casing crew and have safety meeting. 21:00 5 hrs. Run 94 jts of 8 5/8" 32# J-55, LTC casing. 02:00 ½ hrs. Circulate and RD casing crew and LD machine. 02:30 1 hrs. Circulate and RU cementers and hold safety meeting. 03:30 2 hrs. Cement lead as below, bump plug at 05:30 hrs. 6/29/2018. Circulate 120 bbls of cement to reserve. 05:30 ½ hrs. RD cementers.

1 Float Shoe	1.60'
1 jts 8 5/8" 32# J-55 LTC EUE 8rd	41.76'
1 Float Collar	1.32'
<u>93 jts 8 5/8" 32# J-55 LTC EUE 8rd</u>	<u>3,877.69'</u>
94 jts	3,922.37'
Total Casing	-8.37'
Less above KB	3918.00'
Casing set at	
Cut off jt 20.35'	

Cement casing with Compass cementers as follows:

Pump 20 bbls FW spacer followed by:

Lead cement: 655 sx (313 bbls) Cl C 85:0:6, +6% gel+6.65 #/sk salt+C-51 0.30%+0.50% C-45 Econolite+ 0.30% C-503P De foamer, 100% excess, mixed at 11.80 ppg, 2.69 ft3/sk, 15.98 H2O

Tail cement: 200 sx (47 bbls) CL C 100:0:0 +1% CaCl+0.10% C-45 Econolite, mixed at 14.8 ppg, 1.33 ft3/sk, 6.33 gps water. Pumped 236 bbls displacement with FW. Bump plug with 600 psi over circulating pressure to 1600 psi. Bleed back 1 bbls and floats held ok. Plug down at 05:30 hrs. 06/29/18 Circulated 120 bbls or 250 sks to reserve. Had good returns throughout. Top of cement: surface.

DWC: \$156,117

CWC: \$683,743

DMC: \$1,919

CMC: \$11,867

06/30/18 Day 8, Depth 3,919' Footage: 0', PRESENT OPS: Drilling shoe. TIME: NU/ND: 10, Trip: 5 ½, Cut Drill line: 1, Cement: 2, Rig Repair: 2 ½, Test BOP/Casing: 1 ½, NPT (storm): 1. **Bit #3 7 7/8"** Ulterra U716M, SN 40860, 7x15, In: 3919' Out: 0, Footage:0, Hrs: 0, ROP: 0 fph. **BHA:** Bit, Motor (.18 rpg), XO, RMR (1/8), Teledrift, 1 -6' DC, RMR (1/4), RMR (1/4), 17- 6" DC. (593.74'). **Mud:** Mw: 8.9 Vis: 28, pH: 9.0, Cl- 60,000 Solids 4%, Calcium 1240/146. **Surveys:** **Remarks:** 06:00 2 ½ hrs. ND BOP. 08:30 1 hrs. Cut off casing and lay out. 09:30 4 hrs. lay out spacer spool and final cut casing, Install "B" section. Test 1,200 psi O.K. 13:30 1½ hrs. NU BOP. 15:00 1 hrs. Test BOP 250 low and 1,000 high O.K. . 16:00 2 hrs. Change out O-ring on BOP blind ram driller side. 18:00 1½ hrs. Work of accumulator. 19:30 ½ hrs. Shut down due to storm. 20:00 2 hrs. PU BHA and test motor. 22:00 ½ hrs. Shut down due to storm. 22:30 1 hrs. TIH. 23:30 1 hrs. Cut 150' of drill line. 00:30 2 hrs. TIH. 02:30 ½ hrs. PU 2 jts and tag cement at 3,861'. 03:00 ½ hrs. PU kelly and test casing to 250 low and 500 high. 03:30 2 ½ hrs. Drill cement, float collar and shoe.

DWC: \$33,260

CWC: \$717,003

DMC: \$0

CMC: \$11,867

07/01/18 Day 9, Depth 5,256' Footage: 1,337', PRESENT OPS: Drilling. TIME: Drilling: 23 ½, Service rig: ½. **Bit #3 7 7/8"** Ulterra U716M, SN 40860, 7x15, In: 3919' Out: 0, Footage:1,337', Hrs: 23 ½, ROP: 56 fph: **BHA:** Bit, Motor (.18 rpg), XO, RMR (1/8), Teledrift, 1 -6' DC, RMR (1/4), RMR (1/4), 17- 6" DC. (593.74'). **Mud:** Mw: 8.9 Vis: 28, pH: 9.0, Cl- 60,000 Solids 4%, Calcium 1240/146. **Surveys:** 4,113' 1.00°, 4,366' 0.70°, 4,623' 0.50°, 4,909' 0.80° **Remarks:** 06:00 11 ½ hrs. Drilling f/ 3,919' to 4,495' 17:30 1 hrs. Lubricate rig. 18:00 12 hrs. Drilling f/ 4,495' to 5,256', WOB:22-35, RPM: 80, PP: 1200 GPM:423.

DWC: \$27,563

CWC: \$744,567

DMC: \$0

CMC: \$11,867

07/02/18 Day 10, Depth 6,408' Footage: 1,152', PRESENT OPS: TOH for pressure loss. TIME: Drilling: 21½, Service ,rig: ½, Trip: 1, Check Pressure loss and pump soft line: 1. **Bit #3 7 7/8"** Ulterra U716M, SN 40860, 7x15, In: 3919' Out: 0, Footage:2,489', Hrs: 45, ROP: 55 fph: **BHA:** Bit, Motor (.18 rpg), XO, RMR (1/8), Teledrift, 1 -6' DC, RMR (1/4), RMR

(1/4), 17- 6" DC. (593.74'). **Mud:** Mw: 9.1 Vis: 28, pH: 11.0, Cl- 70,000 Solids 5%, Calcium 1240/146. **Surveys:** 5,410' 0.30°, 5,667' 0.10°, 5,891' 0.30°, 6,145' 0.30° **Remarks:** 06:00 11 ½ hrs. Drilling f/ 5,256' to 5,918' 17:30 1/2 hrs. Lubricate rig. 18:00 10 hrs. Drilling f/ 5,918' to 6,408', WOB:22-35, RPM: 80, PP: 1370 GPM:423. 04:00 1 hrs. Check pumps for pressure loss. 05:00 1 hrs. Pump soft line, hit 5 ½ mins. and had 300 psi pressure increase. Set kelly back and TOH. PU 160 ROT 155, SO 150.

DWC: \$29,363
DMC: \$2,480

CWC: \$773,930
CMC: \$14,347

07/03/18 Day 11, Depth 7,404' Footage: 996', PRESENT OPS: Drilling. TIME: Drilling: 19½, Service rig: ½, Trip: 4, **Bit #3** 7 7/8" Ultrerra U716M, SN 40860, 7x15, In: 3919' Out: 0, Footage:3,485', Hrs: 64.5, ROP: 54 fph: **BHA:** Bit, Motor (.18 rpg), XO, RMR (1/8),Teledrift, 1 -6' DC, RMR (1/4), RMR (1/4), 17- 6" DC. (593.74'). **Mud:** Mw: 9.5 Vis: 32, pH: 8.5, Cl- 97,000 Solids 0%, Calcium 1240/146. **Surveys:** 6,397' 0.50°, 6,524' 1.00°, 6,713' 0.80°, 6,808' 0.80°, 6,903' 0.9°, 6,988' 1.20°, 7,093' 0.80°, 7,187' 0.90°, 7,282' 0.90°. **Remarks:** 06:00 2 ½ hrs. TOH for hole in pipe at bottom of 40th stand at 2,061'. 08:30 1 ½ hrs. TIH. 10:00 7 ½ hrs. Drilling f/ 6,408' to 6,802'. 17:30 ½ hrs. Lubricate rig. 18:00 12 hrs. Drilling f/6,802' to 7,404'. WOB:22-35, RPM: 80, PP: 1650 GPM:423. PU 180 ROT 172, SO 168 Mudded up at 6,900' with Horizon engineer on location.

DWC: \$33,552
DMC: \$6,661

CWC: \$807,482
CMC: \$21,008

07/04/18 Day 12, Depth 8,131' Footage: 723', PRESENT OPS: Drilling. TIME: Drilling: 20½, Service rig: ½, Trip: 2, Circ: 1. **Bit #3** 7 7/8" Ultrerra U716M, SN 40860, 7x15, In: 3919' Out: 8,131', Footage:4,212', Hrs: 85, ROP: 49 fph: **BHA:** Bit, Motor (.18 rpg), XO, RMR (1/8),Teledrift, 1 -6' DC, RMR (1/4), RMR (1/4), 17- 6" DC. (593.74'). **Mud:** Mw: 10 Vis: 33, PV/YP: 4/2, gels: 2/5, pH: 9.0, WL: 4.3, Cl- 118,000 Solids 4.57%, Calcium/Mag: 1240/146. **Surveys:** 7,377' 0.70°, 7,472' 0.50°, 7,530' 0.30°, 7,662' 0.30°, 7,851' 0.40°, 7,946' 0.30°. **Remarks:** 06:00 6 ½ hrs. Drlg f/ 7,404' to 7,756', WOB:35, RPM 80, #1P110 SPM, 425 GPM, 1,600 PSI. 12:30 ½ hrs. Lubricate rig. TIH. 13:00 9 hrs. Drilling f/ 7,756' to 8,131'. 03:00 1 hrs. Pump sweep and circulate bottoms up. 04:00 2 hrs. Set kelly back and TOH for bit and motor.

DWC: \$43,353
DMC: \$2,521

CWC: \$850,835
CMC: \$23,529

07/05/18 Day 13, Depth 8,724' Footage: 593', PRESENT OPS: Drilling. TIME: Drilling: 13, Lubricate rig: ½, Trip: 10, Ream: ½. **Bit #4** 7 7/8" Ultrerra U716M, SN 41559, 7x14, In: 8131' Out:', Footage: 594', Hrs: 13, ROP: 45 fph: **BHA:** Bit, Motor (.18 rpg), XO, RMR (1/8),Teledrift, 1 -6' DC, RMR (1/4), 17- 6" DC. (595.49'). **Mud:** Mw: 10 Vis: 33, PV/YP: 4/2, gels: 2/5, pH: 9.0, WL: 4.3, Cl- 118,000 Solids 4.57%, Calcium/Mag: 1240/146. **Surveys:** 8,233' 0.30°, 8,454' 0.60°, 8,581' 1.10°, 8,664' 0.80°. **Remarks:** 06:00 2 ½ hrs. TOH f/ bit and motor. 08:30 1 ½ hrs. Break bit and motor and laydown. PU new motor and test. 10:00 3 ½ hrs. MU bit and TIH. 13:30 ½ hrs. Lubricate rig. 14:00 2 ½ hrs. TIH. 16:30 1/2hrs PU kelly and break circulation at 8,010' wash 30' to bottom, no fill. 17:00 13 hrs. Drlg f/ 8,133' to 8,724', WOB:22-35, RPM 80, #1P 115 SPM, 425 GPM, 1,650 PSI.

DWC: \$25,378
DMC: \$0

CWC: \$876,213
CMC: \$23,529

07/06/18 Day 14, Depth 9,375' Footage: 648', PRESENT OPS: Drilling. TIME: Drilling: 23 ½, Lubricate rig: ½. **Bit #4** 7 7/8" Ultrerra U716M, SN 41559, 7x14, In: 8131' Out:', Footage: 1,244', Hrs: 36, ROP: 34 fph: **BHA:** Bit, Motor (.18 rpg), XO, RMR (1/8),Teledrift, 1 -6' DC, RMR (1/4), 17- 6" DC. (595.49'). **Mud:** Mw: 10 Vis: 35, PV/YP: 7/3, gels: 4/10, pH: 9.0, WL: 4, Cl- 115,000 Solids 11%, Calcium/Mag: 1240/146. **Surveys:** 8,707' 1.10°, 8,897' 0.70°, 9,081' 1.70°, 9,182' 1.90°, 9,213 1.90°, 9,307' 2.4° **Remarks:** 06:00 11 ½ hrs. Drlg f/ 8,724' to 9,081', WOB: 35, RPM 80, #1P 115 SPM, 425 GPM, 1,700 PSI. 17:30 ½ hrs. Service rig. 18:00 12 hrs. Drlg f/ 9,081' to 9,375'. WOB: 8-35, RPM 80, #1P 115 SPM, 425 GPM, 1,700 PSI.

DWC: \$32,685
DMC: \$4,884

CWC: \$908,898
CMC: \$28,413

07/07/18 Day 15, Depth 9,486' Footage: 111', PRESENT OPS: Chain out of hole for logs. TIME: Drilling: 4 ½, Lubricate rig: ½, Trip: 13, Cut Drlg line: 1 ½, Wash and ream: 1, Circulate: 3 ½. **Bit #4** 7 7/8" Ultrerra U716M, SN 41559, 7x14, In: 8131' Out:9,375', Footage: 1,244', Hrs: 36, ROP: 34 fph, **Bit #5** 7 7/8" Ultrerra U716M, SN 34819, 6x14 + 1x16,

In: 9,375' Out: 9,486', Footage: 111', Hrs: 4.5, ROP: 24 fph, **BHA:** Bit, Motor (.18 rpg), XO, RMR (1/8), Teledrift, 1 -6' DC, RMR (1/4), 17- 6" DC. (595.49'). **Mud:** Mw: 10 Vis: 35, PV/YP: 7/3, gels: 4/10, pH: 9.0, WL: 4, Cl- 115,000 Solids 11%, Calcium/Mag: 1240/146. **Surveys:** 9,338' 3.6°, 9,370' 3.5°, 9,402' 3.5°, 9,433' 3.4°. **Remarks:** 06:00 5 hrs. TOH f/ bit. 11:00 ½ hrs. Adjust brakes, put belts on air compressor, make up bit. 11:30 3 hrs. TIH to 3,684'. 14:30 1 ½ hrs. Cut drilling line 120'. 16:00 2 hrs. TIH. 18:00 1 hrs. Wash 60' to bottom from 9,334' to 9,375', had 5' of fill. 19:00 4 ½ hrs. Drlg f/ 9,375' to 9,486'. WOB: 28, RPM 45, #1P 115 SPM, 425 GPM, 1,700 PSI. 23:30 2 hrs. Circulate 2 bottoms ups. 01:30 1 hrs. Short trip to 7,500' chaining out. 02:30 1 hrs. TIH to bottom. 03:30 1 ½ hrs. Circulate bottoms up and spot 80 bbls of 80 vis pill. 05:00 1 hrs. Set kelly back and chain out of hole for logs.

DWC: \$40,368
DMC: \$1,982

CWC: \$949,266
CMC: \$30,395

07/08/18 Day 16, Depth 9,486' Footage: 0', PRESENT OPS: LDDP. TIME: LDDP: 2, Trip: 11, Logging: 8, Wash and ream: 1, Circulate: 2. **Bit #5** 7 7/8" Ulterra U716M, SN 34819, 6x14 + 1x16, In: 9,375' Out: 9,486', Footage: 111', Hrs: 4.5, ROP: 24 fph, **BHA:** Bit, Motor (.18 rpg), XO, RMR (1/8), Teledrift, 1 -6' DC, RMR (1/4), 17- 6" DC. (595.49'). **Mud:** Mw: 10 Vis: 36, PV/YP: 7/3, gels: 4/10, pH: 9.0, WL: 4, Cl- 117,000 Solids 11%, Calcium/Mag: 1240/146. **Surveys:** 9,338' 3.6°, 9,370' 3.5°, 9,402' 3.5°, 9,433' 3.4°. **Remarks:** 06:00 4 ½ hrs. TOH f/ Logs. 10:30 ½ hrs. Lay down reamers, flowdrift, motor, and bit. 11:00 ½ hrs. RU Schlumberger loggers. 11:30 6 ½ hrs. Run Schlumberger wireline logs, PEX-HRLA-HNGS-CNL-GR. 18:00 1 hrs. RD Loggers. 19:00 6 hrs. TIH w/ bit, collars, and drill pipe. 01:00 1 hrs. PU 3 joints of DP to make up for BHA and wash 90' to bottom, had 5' of soft fill. 02:00 2 hrs. Circulate bottoms up and spot 80 bbls 80 vis pill. 04:00 ½ hrs. RU lay down machine and have safety meeting. 04:30 1 ½ hrs. LDDP.

DWC: \$47,341
DMC: \$1,864

CWC: \$996,607
CMC: \$32,259

07/09/18 Day 17, Depth 9,486' Footage: 0', PRESENT OPS: CIRC DV tool. TIME: LDDP: 7, RU Casing crew: 1 ½, Run Casing: 9 ½, Circulate: 2 ½, Cement casing: 3 ½. **Bit #5** 7 7/8" Ulterra U716M, SN 34819, 6x14 + 1x16, In: 9,375' Out: 9,486', Footage: 111', Hrs: 4.5, ROP: 24 fph, **BHA:** Bit, Motor (.18 rpg), XO, RMR (1/8), Teledrift, 1 -6' DC, RMR (1/4), 17- 6" DC. (595.49'). **Mud:** Mw: 10 Vis: 36, PV/YP: 7/3, gels: 4/10, pH: 9.0, WL: 4, Cl- 117,000 Solids 11%, Calcium/Mag: 1240/146. **Surveys:** 9,338' 3.6°, 9,370' 3.5°, 9,402' 3.5°, 9,433' 3.4°. **Remarks:** 06:00 7 hrs. LDDP and DC's, break kelly. 13:00 1 ½ hrs. RU casing crew and get floor ready to run casing. 14:30 9 ½ hrs. Run Run 210 jts (9,491.56' Total pipe) of 5 ½ 17# N80 LTC 8rd casing. Wash last 2 joints to bottom and tag at 9,474'. 00:00 2 hrs. RD casing crew and LD machine. 12:00 ½ hrs. RU Compass cementers and cement 1st stage. Displace with 219 bbls of FW and bump plug at 04:30 hrs. Drop opening bomb, open DV tool and circulate with rig pumps.

DWC: \$147,284
DMC: \$0

CWC: \$1,143,891
CMC: \$32,259

07/10/18 Day 18, Depth 9,486' Footage: 0', PRESENT OPS: Rig released. TIME: Circulate: 5, Cement casing: 2. Rig down cementers: 1, ND Set slips, cut off. 2 hrs. Lay out BOP: 1 ½, Jet Pits: 5 hrs. **Remarks:** 06:00 4 ½ hrs. Circulate DV tool. 10:30 ½ hrs. Safety meeting with cementers. 11:00 2 hrs. Cement 2nd stage 13:00 Rig down cementers. 14:00 1 ½ hrs. ND BOP. 15:30 ½ hrs. Set slips and cut off 5 ½ casing, set 145K on slips. 16:00 hrs. 1 ½ hrs. Remove DSA, rotating head and lay out BOP. 17:30 ½ hrs. Jet pits. 18:00 4 ½ hrs. Jet Pits Rig Release 21:30 hrs 7/09/2018. 22:30 7 ½ hrs. Rigging down pumps, pits and back yard.

1 - Float Shoe	1.30'
1 jts 5 ½ 17# L-80 LTC shoe joint	45.16'
1 -Float Collar	1.10'
52 jts - 5 ½ 17# L-80 LTC casing	<u>2,167.83'</u>
1 - DV Tool	2.25'
173 jts 5 ½ 17# L-80 LTC casing	<u>7,273.92'</u>
226 jts	9,491.56'
Total Casing	<u>19.00'</u>
Less above KB	
Casing set at	9,472.56'

Cut off jt 19.22'

Cement **1st stage** with: 40 bbls of gelled spacer followed by Lead: 442 sx (102 bbls) of CL H+0.05% CSA-1000 +0.2% C-47B+0.2% C20+0.2% C-49 mixed at 14.4 ppg, 1.30 yield, 6.16 H2O. 20% excess. Displaced with 219 bbls of FW. Land

Plug with 1220 psi. Bled back and floats held. Plug down at 04:25 hrs 7/09/18. Bled back 2.5 bbls. Float held ok. Drop bomb, wait 45 mins and open DV tool. Circulate on Rig pump 5hrs.

Cement **2nd Stage** with: 20 bbls FW spacer + 20 bbls of gelled spacer. Mix and pump Lead: 355 sx (170 bbls) CL C 85:0:6 +6%Gel+6.6 #/sk Salt+0.25%-C-51+0.5% Econolite + 0.20% C-20 + 0.320% C-503P mixed at 11.8 ppg, 2.69 Yield, 15.98 H2O. Followed by Tail: 205 sx (43 bbls) CL H +0.1% C20+0.05% C51, mixed at 15.6 ppg, 1.18 yield, 5.22gps H2O. 10% excess. Displaced with 168 bbls of FW. Landed plug with 1500 psi over circ. pressure at 12:44 hrs 07/10/18. Bled back 2 bbls and tool held. Had good circulation throughout both stages, no cement to surface during either stage..

DWC: \$81,994

CWC: \$1,225,886

DMC: \$0

CMC: \$32,259