

**GREAT WESTERN DRILLING COMPANY
OPERATED WELLS**

04/01/19

Page 1

TIGHT HOLE

GWDC

University 42 #1H - Andrews Co., TX

PROS: East Emma MD: 9,900'/TVD 5000' San Andres Test

SL : 500' FNL, 2240' FEL, Section 43, Blk 9, ULS

SPUD: 10/10/18

BHL: 100' FNL, 2239' FEL of Section 42, Blk 9, ULS

AFE: CONTR: Norton #1 and #6

API: 42-003-47863

GWDC WI = 54.838709%

GWDC NRI = 40.3658%

APSR: #1820

- 10/09/18 Today the camp trailers (2) have been set up and 100% functional. Middle reserve pit partially filled with fresh water. Made calls setting up the arrival of Norton #1 drilling rig on location tomorrow.
- 10/10/18 Waiting on Norton Rig #1 arrival. 98% of rig components on site. We are 90% RU. Waiting for truck hauling needed equipment to finish rigging up Top Drive and welding on the conductor pipe. Truck with this equipment timed out.
DC: \$1,882 CC: \$1,882
- 10/11/18 Drilling @ 829'. Made 777'/24 hrs. MW 8.3, Vis 28 Chl 800. Waiting for a transport that has our 16" conductor, accumulator and needed components for the Top Drive from rig movers. Welder installed the conductor drain valve in the cellar. Rig tanks full of water. Vis up to 32. Place the accumulator. R/U Top Drive. Weld in place the 16" conductor and modify the low line. Off load 160 joints of drill pipe. Off load, rack, clean drift, tally the 47 joints of 9 5/8" casing. Finish RU. Pre-Spud inspection. Safety meeting. (TRRC called 10/9/18 @ 14:40 for Pre spud, talked to Calciri). OD/ID and strap BHA. PU BHA #1. **Spud well @ 20:30 hrs 10/10/18.** Drilled from 52'-829'. Deviations: 0.1° @ 180', 0.5° @ 392', 0.6° @ 590'.
DC: \$73,433 CC: \$79,429
- 10/12/18 Drilling @ 1912'. Made 1083'/24 hrs. MW 9.4, Vis 35, pH 7, Chl 22k. Drilled from 829' to 1178'. Service rig. Drilled from 1178' to 1912'. Circulate sweep around, hole cleaned up. POOH w/BHA #1. RU Byrd Lay down machine. LD 8" BHA. Bit #1 in good shape. RU Pipe Pros Casing running tools. Pre-job safety meeting. MU 9 5/8" Weatherford down jet shoe (thread lock and tack weld), 1 jt of 9 5/8" 36# NT55 LTC shoe track, float collar (thread lock and tack weld). Continue RIH w/45 jts of 9 5/8 casing. No hole problems running down. Had to wash down the last 20'. Casing shoe at 1902'. Circulate while waiting on cementers. Deviations: 0.04° @ 938', 0.04° @ 1128', 0.08° @ 1688', .08° @ 1862'.
DC: \$38,677 CC: \$106,578

GREAT WESTERN DRILLING COMPANY OPERATED WELLS

04/01/19

Page 2

TIGHT HOLE

- 10/13/18 Drilling @ 1912'. Made 0'/24 hrs. MW 9.5, Vis 28, Chl 160k. Circulate while waiting on cementers. Note: The casing landed several hours earlier than anticipated. Called and moved back the time needed on location. They hustled and made it to location in good time. RU Schlumberger Cementers. Pre-flush lines and pump. Test lines to 2000 psi, pump 20 bbls spacer. Lead Cement Class-C, 510 sacks (157 bbls) 12.8 ppg, yield 1.73, 9.24 gal FW/sx and additives (100% excess). Tail class C, 250 sacks (59 bbls) 14.8 ppg yield 1.33, 6.33 gal FW/sx plus additives. Drop wiper plug, displace with 142 bbls of native mud. Plug bumped with 500 psi over final pressure, held 5 minutes, bled off, floats held. Got back 48 bbls cement to the surface. Clean up pump truck and release. WOC. Cut off conductor and casing. Weld onto 9 5/8" casing Cameron 11" 5M casing head (slip on). Test weld to 1000 psi, held 30 min. NU BOP's. Monahans testing rigs BOP's. 250 psi low, 2500 psi high, hydrilla 250/1000 psi.
DC: \$43,634 CC: \$194,891
- 10/14/18 Drilling @ 3400'. Made 1488'/24 hrs. MW 9.9, Vis 28, Chl 152K. Formation: Seven rivers/Sand – Anhydrite - salt. PU Integrity Directional. RIH. PU 6 1/4" DC's (15) and 4 1/2" drill pipe to tag float collar at 1857'. SI well and pressure test casing to 1500 psi holding 30 minutes. At a reduced rate displace out the FW mud with brine water and dispose into middle reserve. Drill shoe track to 1891'. Pressure check the casing to 1500 psi. No leaks. Service rig. Finish drilling out the float shoe at 1902' into rat hole below at 1912'. Drill f/1912' to 3400' @ 97 fph WOB 14k.
DC: \$30,467 CC: \$225,358
- 10/15/18 Drilling @ 4860'. Made 1460'/24 hrs. MW 9.7, Vis 28, pH 8, Chl 152k. Formation: San Andres/Dolomite. Drill-rotate/slide f/3400' to 3900'. WOB 20k. Service rig. Drilling f/3900' to 4860'. WOB 25-30k. No hole problems.
DC: \$22,987 CC: \$248,620
- 10/16/18 TD @ 5000'. Made 140'/24 hrs. MW 10.2, Vis 40, pH 9, Chl 174k. Cont'd to drill from 4860' to 5000'. Circulate and reciprocate pipe. Condition drill fluid for logs. Measure out of hole. LD 13 jts of 6 1/4" DC's. Strap confirms hole depth at 5000'. Finish LD directional BHA. Release Integrity Directional. Waiting for Schlumberger Loggers. RU Schlumberger Loggers. First run-FMI, Sonic Scanner. Loggers TD 5000'. Second run – Triple Combo – CMR, LithoScanner, HRLA, Density Neutron, Spectral Gamma Ray. Pulling logs from TD (5000') to 3000'. Note: The Gamma Neutron will be pulled to the surface. Logging process on going.
DC: \$36,468 CC: \$300,868

GREAT WESTERN DRILLING COMPANY OPERATED WELLS

04/01/19

Page 3

TIGHT HOLE

- 10/17/18 TD @ 5000'. Logging with Schlumberger final pass. Logging casing f/1902' to surface. RD loggers. PU 2 7/8" tubing w/mule shoe cement stinger. RIH w/4 1/2" 16.6# drill pipe to tag bottom at 5000'. Circulate while waiting for cementers. **Plug #1:** RU Schlumberger cementers. Pre-job safety/procedure meeting with cementers and crew. Pump 40 bbls of Chemical wash. Pump 404 sacks (77 bbls) of Class H w/additives 16.5 ppg. Yield 1.07. Follow with 7.5 bbls FW. Displace w/44 bbls 10.2 ppg brine. POOH to above the top of cement at 4150'. Circulate at 400 gpm 3 complete bottoms up. Run in one joint and hookup cementers. **Plug #2:** Pump 40 bbls chemical wash. Pump 460 sacks (88 bbls) class H cement, 16.4 ppg, 1.07 yield. Pump 7 bbls FW. Displace with 32 bbls of 10.2 ppg brine. Estimated top of cement 3300'. Pull 20 stands and hook up to circulate. Circulate 400 gmp 3 complete circulations. POH and LD the stinger assembly. Make up the used 8 3/4" Ulterra PDC on 1 stand of 6 1/4" DC. RIH keeping the bit inside the casing while WO cement.
DC: \$36,468 CC: \$300,868
- 10/18/18 TD @ 5000' WOC to cure. Cementer suggested to wait 8 hours. RIH slowly from 1902' to tag at 3150'. Drill semi-hard cement from 3150' to 3300'. WOB 5k. With pumps off we stacked 15k down. (When finished drilling plug the cement had been on bottom for 12 hours). Circulate two bottoms up. Added Biocide to system. RU Byrd LD machine equipment. Safety Meeting. POOH LD drill pipe, DC's and PDC Bit. RD BOP's. Install abandonment flange. RD for move of on Friday. Rig released at 3:00.
DC: \$26,719 CC: \$535,527
- 10/19/18 Rigging down for move off tomorrow. BHA inspection completed, no damage. Rig ready to move off. SDFN. **FINAL REPORT.**
- 10/20-22/18 No further reports until horizontal drilling commences.

HORIZONTAL

- 12/01/18 Moved in directional & company trailer houses and equipment. Today moving in Norton Rig #6. Have Monahans NU alerted to test BOP. Will be 12/3/18 before test and PU tools. Have directional tools and hands arriving tonight. Need water hauler contact. Well is seeping water out flange. Possible waterflow. Will wait till lay line reserve to see if will bleed down. Stellar to deliver mud tomorrow. Mud logger tomorrow A.M. Drill Lube HT is best slickem for San Andres well. Will order some unless someone objects. Have tried lot of others but it is best. Need copy of permit and waterboard as required by TRRC.

**GREAT WESTERN DRILLING COMPANY
OPERATED WELLS**

04/01/19

Page 4

TIGHT HOLE

12/03/18	Moved Norton Rig #6. Set substructure, drawworks, Derrick on floor aframe up, pits set. Worked till dark. Will finish moving in and rigging up today. Still need water hauler contact.
12/04/18	Drilling @ 3380'. MW 10, Vis 29, pH 10, Chl 175K. Made 80'/24 hrs. Finish moving in & RU Norton Rig #6. Rig safety inspection, safety meeting w/Norton crews, tool pusher & Joe Gordy. NU BOP and manifold. Test blind & pipe rams & manifold to 250# & 3000#. Test OK. Test annular 250# & 1500#. Test OK. PU directional BHA, 8 3/4" Ulterra C613 bit w/w 6/22's, test motor & MWD. PU 5" drill pipe & TIH. Tag @ 3208'. Wash & ream to 3300'. Drlg cmt 3300'-3380'. DC: \$105,056 CC: \$649,332
12/05/18	Drilling @ 4035'. Made 655'/24 hrs. MW 10, Vis 29, pH 10.5, Chl 170K. Drilled cmt 3380'-3391'. RU Vaughn Wireline. Run 100' Gyros to 1900'. RD same. Drilled cmt 3391'-3500' kickoff point. 7 BPH waterflow @ 3750'. Sidetrack building curve. Slide 3500'-3583', Rot & slide 3583'-4035'. DC: \$66,727 CC: \$723,649
12/06/18	Drilling @ 4707'. Made 672'/24 hrs. MW 10, Vis 29, pH 10.5, Chl 170K. TIH w/1.75-degree fixed mtr. Landed curve @ 4707' MD. Estimate 4342' TVD. 91°. Built curve 4035'-4103', built tangent 4103'-4271'. Finish building curve 4271'-4707'. Circ btms up. TOH. LD motor, break bit, check same. PU 1.75° fixed motor, rerun bit, MWD. Test motor & MWD. TIH. DC: \$56,129 CC: \$779,778
12/07/18	Drilling @ 6595'. Made 1888'/24 hrs. MW 10, Vis 29, pH 10, Chl 176K. TIH. Wash & ream to btm. Rot & slide 4707'-6595'. Continue drilling. DC: \$50,133 CC: \$829,910
12/08/18	Drilling @ 8470'. Made 1875'/24 hrs. MW 10, pH 10, Chl 175K. Rotate and slide from 6981' to 8470'. 7730' had 20 BPM waterflow. Depleted to 8 BPM this morning. DC: \$61,879 CC: \$892,488
12/09/18	Drilling @ 9680'. Made 1210'/24 hrs. MW 9.8, Vis 30, pH 8, Chl 162,000. Rotate and slide from 8470' – 9680'. Pump and circ out 2 Hi-Vis sweeps. Spot Hi-Vis lube pill on btm. TOH to LD directional tools and run near bit logs w/Schlumberger. TD Lateral @ 9680'. DC: \$135,490 CC: \$892,488

**GREAT WESTERN DRILLING COMPANY
OPERATED WELLS**

04/01/19

Page 5

TIGHT HOLE

- 12/10/18 TD @ 9680'. MW 9.8, Vis 29, pH 8, Chl 165k. TOH & LD directional tools. Release crew. PU Schlumberger near bit BHA & bit. TIH to 1910'. Rabbiting all pipe. Cut drlg line. TIH, rabbiting all DP. 1 jt would not rabbit. LD same. TIH w/DP & HWDP, rabbiting all pipe. Wash 200' to btm, no fill. Circ btms up. H₂S & CO₂ coming back. Kick blew flowline off. SWI. Circ thru chokes. Open Hydrill & circ clean fluid around. Work pipe every 30 minutes. Stand back 2 stands. RU Schlumberger. Pump tools down. Calibrate tools. Start logging @ 2:45 A.M. 12/10. At 700 A.M. 5725'.
DC: \$49,940 CC: \$1,077,919
- 12/11/18 Finished LD DP. RU csg crew. Safety meeting with Norton, Byrd Csg Services, thread techs, Weatherford tool hand and Gordy. Made up shoe track, running csg 8:00 A.M.
- 12/12/18 Finish LD DP & BHA. RU Byrd Services csg crew. Safety meeting. Run 220 jts, 5 ½", 17#, NT-80LHE, TCBC-HT csg. Total 9686.45'. Set @ 9680'. Double valve shoe, pup, debris catcher, pup, XO, MJ 8041' – 8063', MJ 6378'-6400'. Flotation device 4998'-5000', MJ 4753'-4775', MJ 3490'-3512', 92 solid 5 ½ x 8 ½ centralizer. Well came in, csg @ 8891'. SWI. WO swedge and iron from Schlumberger that was ordered yesterday to arrive @ 12:00 noon. Rupture flotation device with 1300#. Work air out of pipe. Circ gas out thru chokes. Open flowline and circ clean fluid around. Finish running csg. Circ hole clean. RD csg crew & LD machine. Spot bulk trucks. Safety meeting with Schlumberger, install head and test lines. 30 bbl chem wash front, 187 bbls, 425 sx C @ 11.5#, yield 2.49, 14.634 gal/sx H₂O. Tail w/380 bbls, 1402 sx C @ 14#, yield 1.52, 7.731 gal/sh H₂O. Wash up, drop 1st plug, 3 bbls sugar water. Drop 2nd plug, 17 bbls sugar water, 210 bbls FW. Bump 1st plug 2200#, bump 2nd plug 4300#. Rupture. Pump 2 bbls, wet shoe 5 bbls sugar water outside. Floats held. WOC. RD Schlumberger. ND BOP, set slips, cut off csg, LD BOP, NU B-Section, test 5000 #. Test OK. Finish cleaning pits, DP & HWDP being inspected by Hobbs Rental. Rig released 7:00 A.M. 12/12/18
- 12/13/18 Finish cleaning pits. Rig Down and prepared to move. Will move off location if weather allows.
DC: \$20,972 CC: \$1,637,854
- 12/14/18 Norton Rig #6 has moved. Stellar supposed to move trailers and rest equipment tomorrow. All rental equipment released. DP inspectors SD today for weather. Will Finish tomorrow.
- 12/17/18 No further reports until completion operations start in mid January.