

12. Completed Operations:

Pick up & run 7" casing. Ran float shoe at 12,618', 1 JT CSG, float collar at 12,574', 104 JTS CSG, 1st stage collar at 8,020', 63 JTS CSG, 2nd stage collar at 5,192', 122 JTS CSG, centralizers on JTS 1, 2, 4, 6, 104, 106, 168, & 170. 1st 60 JTS on bottom 7" 29#/ft, S-95 LT&C (12,618' - 10,022'); then 181 JTS 7" 23#/ft, S-95, LT&C (10,022' - 2,064'); then 49 JTS 7" 29#/ft S-95, LT&C (2,064' - surface). Cement 1st stage from 12,618' to 8,020'. Pump 380 sx of Haliburton Lite 12.60#/gal followed by 327 sx of Class "H" 17#/gal cement. Full returns while pumping cement & flush. Bump plug w/1,950 # at 9:25 AM. Held press 5 min; OK. Check floats. Held OK. Open stage tool at 8,020'. Circulate with full returns; did not circulate cement. WOC 4 hrs. Cement 2nd stage from 8,020' to 5,192'. Pump 438 sx of Lite 12.6 #/gal followed by 365 sx Class "H" 17.00#/gal cement. Lost returns half way through displacement. Bump plug w/1,650 # at 3:00 PM. Held 5 min. Release pressure; no flow back. Open stage collar at 5,192'. Circulate w/full returns. Did not circulate cement. WOC 4 hrs. Cement 3rd stage from 5,192' to surface. Pump 280 sx Lite 12.6#/gal followed by 500 sx Class "H" 17#/gal cement; lost returns; regained 70% returns last 50 bbls of displacement. Did not circulate cement. WOC 8 hrs. Ran temperature survey. Top of cement at 3,500'. Set slips on 7" CSG w/200,000# on slips. Cut 7" CSG; install 11" - 5,000 PSI x 7-1/16" - 10,000 PSI tubing head assembly w/2 1-13/16" x 10,000 PSI gate valves. Test CSG seals to 4,000 PSI; held OK. Install 7-1/16" - 10,000 PSI double ram BOP; 5,000 PSI Hydrill annular preventer & 7-1/16" rotating head. Test BOP, HCR, control valves, & choke manifold to 7,500 PSI; test Hydrill to 3,000 PSI. Nipple up BOP. Pick up & GIH w/6-1/8" bit, combo reamer-stabilizer, 6'x4 3/4" DC, stabilizer, 1 - 4 3/4" DC, stabilizer, & 34 4 3/4" DC, & DP. GIH to 5,187' tag cement, drill cement & plugs out of stage collar at 5,192'. Circ 30 min. Test CSG from surface to 8,020' to 3,000 PSI for 30 min; held OK. GIH to 7,990' tag cement. Drill cement & plugs out of stage collar at 8,020'. Circ 20 mins. Test CSG from surface to 12,574' to 3,000 PSI for 30 min; held OK.