

McDonald 2-4A Dual Stage Annular fill

- 1 GYRO completed 11/6/2013 – no survey needed
- 2 Call Automation Removal Group 24 hours before rig up to isolate any production equipment (remove plunger, wellhead automation, etc.). Prepare to move base beam rig onto location. Install fence if needed.
- 3 MIRU SL. Fish plunger if necessary and tag PBSD (should be 7740', CO depth on 7/30/09). Inform engineer of tag depth.
- 4 Prepare location for base beam rig.
- 5 Spot 25 jts of 2-3/8" 4.7# J-55 8RD EUE tbg.
- 6 Spot 140 jts of 1.66" 2.33# J-55 10rd IJ tbg.
- 7 WH needs to be rated to 5000 psi. Ensure all valves, fittings, and plugs on well head are rated to 5000 psi. If new WH is needed, follow change out specifications in Step 28.
- 8 MIRU WO rig. Kill well with fresh water and biocide. ND WH, NU BOP.
- 9 PU tbg to break any possible sand bridges. Do not exceed 80% of tubing tensile strength, or 57,384 lb. LD landing jt.
- 10 Unseat tbg hanger. Install rubber wiper in stripping head.
- 11 MIRU EMI equipment. TOOH with 2-3/8" tbg. EMI tbg while TOOH. Lay down jts with wall loss or penetrations >35%. Replace jts as necessary. Keep yellow and blue band tbg. Note jt number and depth of tubing leak(s) on production equipment failure report in OpenWells. Clearly mark all junk (red band) tbg sent to yard.
- 12 PU and TIH with 216 jts of 2-3/8" tbg with 4.5" RBP (4.5" 11.6# I-80). Set RBP at +/- 6700' (Collars at 6683' and 6725').
- 13 Pressure test RBP to 1000 psi for 15 minutes. If pressure test passes, proceed. Spot 2 sx sand on top of RBP. TOOH. Stand back tbg
- 14 ND BOP, ND tbg head. Unland 4-1/2" 11.6# I-80 csg (Do not exceed 130,000-lb pull weight). NU double entry flange, NU BOP.
- 15 PU and TIH with 133 jts of 1.66" tbg outside 4-1/2" csg to +/- 4100' or as deep as you can go, cement top is at 4204' but may be shallower, update engineer with depth of 1.66".
- 16 Circulate and condition hole with ~400 bbls of drilling mud with rig pump (1.5x annular volume from +/- 4100'), or until well is completely dead.
- 17 MIRU cementers. Commence pumping cement job consisting 5 bbl fresh water, 20 bbl sodium metasilicate and 5 bbl fresh water; 205 sx of Class G with ¼ lb/sk cello-flake mixed at 14.6 ppg and 1.12 cf/sk blended for a 6 hr pump time (cement from +/- 4100' to 3600').
- 18 TOOH with 32 jts of 1-1/4" tbg to +/- 3200' and circulate 2x tbg volume to clean up.
- 19 PUH with 1-1/4" tbg to +/- 1300'.
- 20 Commence pumping cement job consisting 10 bbl fresh water, 190 sx of Type III with ¼ lb/sk cello-flake mixed at 14.8 ppg and 1.33 cf/sk blended for a 3 hr pump time (cement from 1300' to 670').
- 21 PUH to 300' and circulate 1.66" tubing clean. TOOH with remaining 1.66" tbg and LD.
- 22 Break lines and clean up with fresh water. RDMO cement company.
- 23 ND BOP, ND double entry flange, re-land 4-1/2" csg. NU BOP.
- 24 Leave well SI for minimum of 24 hours.

- 25 MIRU WL and run CCL-GR-CBL-VDL from 4400' to surface. If SHSX plug is not above 3600' or Fox Hills plug is not above 670', contact engineering for further instructions. Email logs to engineering and DJVendors@anadarko.com. RDMO WL.
- 26 Pressure test csg to 5000 psi (casing tested to 6000 psi , 3/8/04).Record test in Open Wells. If pressure test does not hold, contact engineering.
- 27 If WH is not rated to 5000 psi, ND BOP. Install new 5000 psi threaded tubing head with 7-1/16" flanged top, 7-1/16" flanged 5000 psi tubing head adaptor with 2-1/16" studded top, 2-1/16" flanged 5000 psi master valve, flanged 5000 psi 2-3/8" plunger lubricator (side outlets threaded). All valves, fittings, plugs on well head need to be rated for 5000 psi.
- 28 Pressure test the tubing head from below the tubing head through the master valve to 5000 psi with hydro tester. NU BOP.
- 29 TIH with 2-3/8" tbg and retrieving head to tag sand above RBP at +/- 6700'. Circulate sand off RBP, latch onto RBP and TOOH. SB tbg, LD RBP.
- 30 PU and TIH with 2-3/8" NC, 2-3/8" XN, and 243 jts 2-3/8" tbg. If possible or needed, drop down with extra jts and circulate to cleanout sand. PUH and land tbg at +/- 7585' (1 jt above top J Sand perf).
- 31 ND BOP, NU WH.
- 32 RMDO WO rig. Return well to production team.
- 33 Clean location and swab well back to production. Notify field foreman/field coordinator of finished work and turn well back over to production team.