

Williams 10-20 – Bradenhead

- 1 Well already has directional survey.
- 2 Call Wattenberg IOC (970-506-5980) at least 24 hrs prior to rig move. If not already completed, request that they catch and remove plunger, isolate production equipment and remove any automation equipment prior to the rig showing up. Install perimeter fence as needed.
- 3 MIRU SL. Fish plunger if necessary and tag PBMD (should be 7766'). 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 1800' of 1-1/4" 2.33# J-55 10rd IJ tbg.
- 7 Tbg head needs to be rated to 5000 psi. Ensure all valves, fittings, and plugs on tbg head are rated to 5000 psi. If new tbg head is needed, follow change out specifications in Step 25.
- 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 229 jts of 2-3/8" tbg with 4.5" RBP (4.5" 11.6# I-80). Set RBP at +/- 7220' (Collars at 7200' and 7242'). Spot 2 sx sand on top of RBP. TOOH. Stand back tbg.
- 13 Pressure test RBP to 1000 psi for 15 minutes. If pressure test passes, proceed.
- 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 56 jts of 1-1/4" tbg outside 4-1/2" csg to +/- 1700', or until top of cement is tagged.
- 16 Circulate and condition hole with ~115 bbls of drilling mud with rig pump (1.5x annular volume from 1700'), or until well is completely dead. Spot 20 bbls of 10 ppg drilling mud.
- 17 TOOH with 3 jts 1-1/4" tbg to 1600'.
- 18 MIRU cement company. Commence pumping cement job consisting 10 bbl fresh water followed with 215 sx of Type III cement 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 1600' to 672'. Using 8.25" hole from caliper, adding 20% excess).
- 19 TOOH with 40 jts of 1-1/4" tbg to +/- 400' and circulate 26 bbls of drilling mud to clean up.
- 20 TOOH with remaining 1-1/4" tbg and LD.

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SX top: 4318'

FHM: Behind Pipe

- 21 RMDO cement company.
- 22 ND BOP, ND double entry flange, re-land 4-1/2" csg. NU BOP.
- 23 Leave well SI for minimum of 24 hours.
- 24 MIRU WL and run CCL-GR-CBL-VDL from 1700' to surface (cement should be from +/- 1600' to 672'). If Fox Hills plug is not above 672', contact engineering for further instructions. Email logs to engineering and DJVendors@anadarko.com. RDMO WL.
- 25 If tbq head is not as described, ND BOP. Install new GE 5000 psi 4-1/2" bottom threaded tbq head with 7-1/16" flanged top, 7-1/16" flanged 5000 psi tbq head adaptor with 2-1/16" studed 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. NU BOP.
- 26 Pressure test csg to 5000 psi. If pressure test does not hold, call engineering.
- 27 TIH with 2-3/8" tbq and retrieving head to tag sand above RBP at +/- 7220'. Circulate sand off RBP, latch onto RBP and TOOH. SB tbq, LD RBP.
- 28 PU and TIH with 2-3/8" NC, 2-3/8" XN, and 241 jts 2-3/8" tbq. If necessary, drop down with extra jts and circulate to cleanout sand. PUH and land tbq at +/- 7585' (1 jt above top Codell perf).
- 29 ND BOP, NU WH.
- 30 GE should pressure test tbq head through test port on side of tbq head adaptor flange to 5000 psi for 15 mins.
- 31 RMDO WO rig. Return well to production team.
- 32 Clean location and swab well back to production. Notify field foreman/field coordinator of finished work and turn well back over to production team.

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