

## Miller 40-29 – Bradenhead Procedure

- 1 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.
- 2 MIRU Slick line. Fish plunger if necessary and tag for PBTD (should be at 8070').
- 3 Prepare location for base beam rig.
- 4 Spot 45 jts of 1.66" 2.33# J-55 10rd IJ tbg.
- 5 Check wellhead for 5,000 psi rating. If wellhead is not rated to 5,000 psi, install one that is prior to completing the job.
- 6 MIRU WO rig. Kill well with fresh water with biocide. ND wellhead, NU BOP.
- 7 Run two 2" lines from starting head to return tanks.
- 8 PU 8-10' landing joint with TIW safety valve on top and screw into the tbg hanger. Back out the lock down pins and pull up on the tbg string to break any possible sand bridges. Do not exceed 80% of tubing tensile strength, or 57,384-lb.
- 9 Unseat tbg hanger and LD tbg hanger and landing joint. Install rubber wiper in stripping head.
- 10 MIRU EMI equipment. TOOH with 2-3/8" tbg. EMI tbg while TOOH. Lay down joints with wall loss or penetrations >35%. Replace joints as necessary. Keep yellow and blue band tubing. Note joint number and depth of tubing leak(s) on production equipment failure report in OpenWells. Clearly mark all junk (red band) tubing sent to yard.
- 11 PU and TIH with 2-3/8" 4.7# tbg with 4.5" RBP (4.5" 11.6# I-80). Set RBP at +/- 6500'. Spot 2 sx sand on top of RBP. TOOH. SB tbg.
- 12 Pressure test RBP to 1,000 psi for 15 minutes. (Pressure test to make sure plug is set correctly)
- 13 ND BOP, ND tubing head. Un land 4-1/2" 11.6# I-80# csg. NU double entry flange, NU BOP.
- 14 PU and TIH with 1.66" 2.33# J-55 10rd IJ tbg outside 4 1/2" csg to +/- 1600' with alcomer sweeps while running in.
- 15 Circulate 130 bbls with rig pump (Circulate at least 1.5x annular volume from 1600') or until well is dead.
- 16 TUH with 1.66" tbg to 1200'.
- 17 MIRU Cement company. Commence pumping cement job consisting 5 bbl fresh water, 20 bbl sodium meta silicate and 5 bbl fresh water; 20 bbl (90 sx) of Type III with 1/4 lb/sk cell-flake mixed at 14.8 ppg and 1.33 cuft/sk blended for a 3 hr pump time (Cement from 1200' to 890').
- 18 TOOH with 15 jts of 1-1/4" 2.33# to +/- 700' and circulate 2x tbg volume to clean up.
- 19 TOOH with remaining 1.66" 2.33# and LD.
- 20 Break lines and clean up with fresh water. RMDO cement company.
- 21 ND BOP, ND double entry flange, re-land 4-1/2" csg NU BOP.
- 22 Leave well shut in for minimum of 24 hours.
- 23 MIRU wire line and run CCL-GR-CBL-VDL from 2000' to 0' (tie into old CBL ran 5/10/2010). If Fox Hill plug is not above 890', contact engineering for further instructions. RDMO wire line.
- 24 Pressure test casing to 1,000 psig. If pressure test does not hold call engineering.

One Stage Annular Fill. SC had continuous gas flow during last F17.

TOC 1710'

FHM 1087' Surface Casing Shoe: 993' Sussex Top: 4446' Nio Top: 7256'

Engineer: Kevin Kuzio 406-565-1360

- 25 TIH with 2-3/8" tbg and retrieving head and tag sand above RBP @ +/- 6500'. Circulate sand off RBP, latch onto RBP and TOOH. SB tbg, LD RBP.
- 26 PU and TIH with 2-3/8" XN, and remaining 2-3/8" tbg. Land tbg @ +/- 7460'.
- 27 ND BOP, NU master valve.
- 28 Install 7 1/16" x 5,000 psi tubing head adaptor with new 5,000 psi master valve threaded 2 3/8" connection. Make sure all wellhead valves are rated to 5,000 psi.
- 29 Install 2 3/8" pup joint above the master valve. Pressure test the tubing head from below the tubing head through the master valve to 5,000 psi with hydro tester. NU 5k wellhead.
- 30 RMDO WO rig. Return well to production team.
- 31 Clean location and swab well back to production. Notify field foreman/field coordinator of finished work and turn well back over to production team.

One Stage Annular Fill. SC had continuous gas flow during last F17.  
TOC 1710'  
FHM 1087' Surface Casing Shoe: 993' Sussex Top: 4446' Nio Top: 7256'  
Engineer: Kevin Kuzio 406-565-1360