

## NRC 40-9 – Bradenhead Procedure

- 1 There is an existing deviation survey, so a gyro survey is not needed.
- 2 Casing was pressure tested at 5319 psi on November 5, 2010 during a frac.
- 3 Notify the Foreman and Field Coordinator 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.
- 4 MIRU Slick line. Fish plunger if necessary and tag PBMD (Should be 8553').
- 5 Prepare location for base beam rig.
- 6 Spot 25 jts of 2-3/8" 4.7# J-55 8RD EUE tbg.
- 7 Spot 40 jts of 1-1/4" 2.33# J-55 IJ tbg.
- 8 Check wellhead for flanged-style connections and 5,000 psi rating. If wellhead is not rated to 5,000 psi or does not have flanged-style connections, install one that does prior to completing the job.
- 9 MIRU WO rig. Kill well with fresh water with biocide. ND wellhead, NU BOP.
- 10 Run two 2" lines from starting head to return tanks.
- 11 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.
- 12 Unseat tbg hanger and LD tbg hanger and landing joint. Install rubber wiper in stripping head.
- 13 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.
- 14 TIH 2-3/8" tbg with 4.5" RBP (4.5" 11.6# I-80). Set RBP at +/- 7489' (Collars at 7468' and 7510'). Spot 2 sx sand on top of RBP. TOOH with 2-3/8", SB tbg.
- 15 Pressure test RBP to 2,000 psi for 15 minutes. (Pressure test to make sure plug is set correctly)
- 16 ND BOP, un-land 4-1/2" csg, RU dual-entry flange, NU BOP. If casing cannot be safely un-landed, contact engineering for further support.
- 17 PU and TIH with 1-1/4" 2.33# IJ tbg to 1104'. Call Tod Haanes (cell# 303-929-2339) if you cannot land EOT at 1104'.
- 18 Circulate Alcomer 74L mud flush intermittently in sweeps as the 1-1/4" tbg is TIH (3 sweeps while TIH, and a 4<sup>th</sup> sweep when at 1104').
- 19 Circulate 75 bbls with rig pump (circulate at least 1.5x annular volume from 1104'), until the well is dead.
- 20 MIRU cement company. Commence pumping cement job consisting of 10 bbls fresh water spacer, 69.6 cf (40 sx) of Control Set 'C' mixed at 13.5 ppg and 1.74 cuft/sk blended for a 2 hr thickening time (cement from 845' to 1104').
- 21 Break lines, clean up with fresh water, RDMO cement company.
- 22 Slowly PU tubing string to +/- 600'. Circulate with water, clearing the tubing string of any cement. The goal is to have cement at least 100' into the surface casing. The surface casing shoe is located at 1015'.

- 23 TOOH and LD 1-1/4" tbg.
- 24 ND BOP, ND dual entry flange, re-land 4-1/2" csg and NU BOP. Leave well shut in a minimum of 24 hours.
- 25 MIRU wire line and run CCL-GR-CBL-VDL from 1400' to 0' (from below TOC of previous CBL to surface). Email logs to engineering and [DJVendors@anadarko.com](mailto:DJVendors@anadarko.com). RDMO wire line.
- 26 TIH with 2 3/8" tbg and retrieving head and tag sand above RBP at +/- 7489'. Circulate sand off RBP. Latch onto RBP and release RBP. TOOH standing back all 2 3/8" tbg and LD RBP.
- 27 PU and TIH with 2-3/8" notched collar, 2-3/8" XN, 2-3/8" 4.7# J-55 tbg. Clean out to PBMD @ 8553'. TOOH and land 2-3/8" tbg @ +/- 7746', which is 30' above the Niobrara perfs.
- 28 ND BOP, NU master valve.
- 29 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.
- 30 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.
- 31 RDMO 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.