

PSC 16-34: Bradenhead Procedure

- 1 **JOB SUMMARY:** Fox Hills Annular Fill and Replace Entire WH.
- 2 There is an existing GYRO survey, so another gyro survey is not needed.
- 3 Casing was pressure tested at 6000 psi on July 17, 2007.
- 4 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.
- 5 MIRU Slick line. Fish plunger if necessary and tag PBMD (should be 7281').
- 6 Prepare location for base beam rig.
- 7 Spot 25 jts of 2-3/8" 4.7# J-55 8RD EUE tubing.
- 8 Spot 45 jts of 1.66" 2.33# J-55 IJ tubing.
- 9 Notify mud company to have at least 19 barrels of 10.0 ppg mud on standby.
- 10 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.
- 11 MIRU WO rig. Kill well with fresh water containing biocide. ND wellhead. NU BOP.
- 12 Run two 2" lines from starting head to return tanks.
- 13 PU 8-10' landing joint with TIW safety valve on top and screw into the tubing hanger. Back out the lock-down pins and pull up on the tubing string to break any possible sand bridges. Do not exceed 80% of tubing tensile strength, or 57,384-lb.
- 14 Unseat tubing hanger. LD tubing hanger and landing joint. Install rubber wiper in stripping head.
- 15 MIRU EMI equipment. TOO H with 2-3/8" tubing. EMI tubing while TOO H. 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 Open Wells. Clearly mark all junk (red band) tubing sent to yard.
- 16 TIH 2-3/8" tubing with 4.5" RBP (4.5" 11.6# I-80). Set RBP at +/- 6875' (collars at 6854' and 6896'). Spot 2 sxs of sand on top of RBP. TOO H with 2-3/8" tubing, and standback.
- 17 Pressure test RBP to 2,000 psi for 15 minutes (pressure test to make sure plug is set correctly).
- 18 ND BOP, un-land 4-1/2" casing, RU dual-entry flange, and NU BOP. If casing cannot be safely un-landed, contact engineering for further support.
- 19 PU and TIH with 1.66" 2.33# IJ tubing to 1200', and circulate Alcomer 74L mud flush while TIH (2 sweeps while TIH and 3rd sweep at 1200'). Call Tod Haanes (cell# 303-929-2339) if you cannot land EOT at 1200'.
- 20 Circulate 94 bbls with rig pump (circulate at least 1.5x annular volume from 1200'), **or until well is dead**. Displace 19 bbls 10.0 ppg mud to 1200' (9" caliper hole diameter and 40% excess).
- 21 TOO H 1.66" tubing to 970'.
- 22 MIRU cement company. **Re-establish circulation.** Commence pumping cement job consisting of 10 bbls fresh water spacer, 160 sxs (213 cf) of Type III+0.3% CFL-3+0.3% CFR-2+0.25 lb/sk Polyflake, 1.33 cf/sx, mixed at 14.8 ppg (cement from 970' to 460'), and blended for a 3 hour pump time. This annular cement volume assumes 4-1/2" casing confinement of 403' in 9" OH at

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40% excess, and 107' inside 8-5/8" surface casing with no excess (a **minimum 500' column of cement**).

- 23 Break lines, clean up with fresh water, and RDMO cement company.
- 24 Slowly PU tubing string and land EOT at +/- **460'**. Circulate with water so the TOC will be at +/- **460'**. The goal is to have cement *at least* **100'** into the surface casing. The surface casing shoe is located at **567'**.
- 25 TOOH with 1.66" tubing. Circulate clean, and LD 1.66" tubing.
- 26 ND BOP, ND dual entry flange, re-land 4-1/2" casing, and NU BOP. Leave well shut in a minimum of 24 hours.
- 27 MIRU wire line and run CCL-GR-CBL-VDL from **4000'** to **Surface**. Email logs to engineering and DJVendors@anadarko.com. RDMO wire line.
- 28 TIH with 2 3/8" tubing with retrieving head, and tag sand above RBP at +/- **6875'**. Circulate sand off RBP. latch onto RBP, and release. **Circulate gas out of hole**. TOOH standing back all 2 3/8" tubing and LD RBP.
- 29 PU and TIH with 2-3/8" notched collar, 2-3/8" XN nipple, and 2-3/8" 4.7# J-55 tubing. Clean out to PBMD @ **7281'**. TOOH and land 2-3/8" tubing at +/- **7126'**, which is 30' above the Codell perfs.
- 30 **RU rig lubricator and broach tubing to the XN nipple with slickline**. **RD rig lubricator**. ND BOP.
- 31 Install 7-1/16" x 5,000 psi flanged tubing head adaptor with 5,000 psi flanged master valve. Make sure all WH valves are rated to 5,000 psi, and all nipples are double-X heavy.
- 32 Install 2-3/8" pup joint above the master valve. **MIRU hydrotester**. Pressure test the tubing head from below the tubing head through the master valve to 5,000 psi using hydrotester. **RDMO hydrotester**.
- 33 RDMO WO rig. Return well to production team.
- 34 Clean location and swab well back to production. Notify field foreman/field coordinator of finished work and turn well back over to production team.