

Davis State 20-16 – Annular Fill Prep Procedure

- 1 Well needs a single stage annular fill and a 5000 psi rated wellhead.
- 2 Directional survey completed on this well during drilling.
- 3 Contact field foreman or 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 slickline. Fish PLE if necessary and tag fill (PBMD @ +/- 7272').
- 5 Prepare location for base beam rig.
- 6 Spot 50 jts of 1.66" 2.33# J-55 IJ tubing.
- 7 Notify Ed Asuchak in drilling to have 10 ppg mud on standby.
- 8 MIRU WO rig. Kill well with biocide treated water. ND wellhead, NU BOP.
- 9 Run two 2" lines from starting head to return tanks.
- 10 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 83,440-lb.
- 11 Unseat tubing hanger and LD tubing hanger and landing joint. Install rubber wiper in stripping head.
- 12 MIRU EMI equipment. TOOH with 2 3/8" tubing. EMI tubing 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.
- 13 TIH 2 3/8" tubing with 4.5" RBP (4.5" 11.6# I-80). Set RBP at +/- 6820' (Collars at 6800' and 6843').
- 14 Circulate gas out of well; pressure test RBP to 2,000 psi for 15 minutes (pressure test to make sure plug is set correctly).
- 15 Spot 2 sx sand on top of RBP. TOOH with 2 3/8" tubing, SB tubing.
- 16 ND BOP, un-land 4 1/2" casing, RU dual-entry flange, NU BOP. Stretch calcs show that with a 58,000-lb pull weight there should be 24" of stretch. If casing cannot be safely un-landed, contact engineering for further support.
- 17 PU and TIH with 1.66" 2.33# IJ tubing to 1300'. While tripping in, pump Alcomer 74L sweeps periodically based on visual inspection of returns with a final sweep at 1300'.
- 18 Circulate at least 1.5x annular volume (~100 bbls) of biocide treated water with rig pump or until well is dead, spot ~30 bbls 10 ppg mud at the end.
- 19 TOOH 1.66" tubing to 1000'.

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Offset to the Merlin 13-15HZ & Iceman State 5-15HZ Pads (COA); ~560' from closest planned horizontal

Prep Type: Full Circle

Pasture

Directional survey completed on this well during drilling

Nio Top: 6882'; Sx Top: 4052'; FHM: 750'; TOC: 3280'

Last casing pressure test: 5500 psi on 1/29/2010

- 20 MIRU cement company, establish circulation with biocide treated water and commence pumping cement job consisting of 5 bbls fresh water, 20 bbls sodium metasilicate, 5 bbls fresh water, and 33 bbl (140 sx) of Type III with ¼ lb/sk cello-flake mixed at 14.8 ppg and 1.33 cuft/sk blended for a 3 hr pump time (cement from 1000' to 500').
- 21 TOO H 1.66" tubing to 400' and reverse circulate 2X tubing volume to clean up. TOO H & LD remaining 1.66" tubing.
- 22 Break lines, clean up with fresh water, RMDO cement company.
- 23 ND BOP, ND dual entry flange, re-land 4 ½" casing. NU new WHI 7 1/16", 5,000 psi flanged tubing head complete w/ 5000 psi rated casing valves and NU BOP. Leave well shut in minimum of 24 hours.
- 24 MIRU WL and run CCL-GR-CBL-VDL from 3200' to 0'. If cement coverage is not above 500', contact Evans Engineering for further instructions. Email logs to Evans Engineering and DJVendors@anadarko.com. RDMO WL.
- 25 TIH with 2 3/8" tubing and retrieving head and tag sand above RBP at +/- 6820'. Circulate sand off RBP. Latch onto RBP and release RBP. TOO H standing back 2 3/8" tubing and LD RBP.
- 26 PU and TIH with 2 3/8" notched collar, 2 3/8" XN nipple, and 2 3/8" 4.7# L-80 tubing. Clean out as necessary. Land 2 3/8" tubing at +/- 7130' (1 joint above top Codell perf).
- 27 ND BOP, NU 7 1/16", 5000 psi flanged tubing head adaptor w/ new 2 1/16", 5000 psi flanged master valve.
- 28 MIRU hydrotester. Install 2 3/8" pup joint above master valve. Hydrotest wellhead to 5000 psi from below tubing head through master valve for 15 minutes.
- 29 RMDO WO rig. Return well to production team.
- 30 Clean location. Notify field foreman/field coordinator of finished work and turn well back over to production team.

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Prep Type: Full Circle
Pasture
Directional survey completed on this well during drilling
Nio Top: **6882'**; Sx Top: **4052'**; FHM: **750'**; TOC: **3280'**
Last casing pressure test: 5500 psi on 1/29/2010