

## Pioneer 23-2 Annular Fill

- 1 NOTE: WELL HAS MWD DATED 8/9/2009.
- 2 Call the IOC at 970-506-5980 before rig up to isolate production equipment. Call 24 hours prior to the rig moving onto location so that any automation equipment can be removed prior to the rig showing up. Install fence if needed. NOTE: Report surface casing pressure to engineer. If surface casing is not accessible at ground level, re-pipe so valve is at ground level
- 3 Level location for base beam rig.
- 4 Spot 52 jts of 1-1/4" 2.33# J-55 10rd IJ tbg.
- 5 MIRU slickline. RIH and tag for fill. If production equipment found, retrieve. Note tagged depth in OpenWells. RDMO slickline. Last tagged depth was N/A.
- 6 RDMO wireline services company.
- 7 MIRU WO Rig. Control well with biocide treated water. ND WH and NU BOP. Function test and document. Unseat landing joint and LD.
- 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 is 57,600-lb.
- 9 MIRU EMI services. TOOH with 2-3/8" TBG. EMI on TOOH. LD joints with wall loss or penetrations > 35%. Replace joints as necessary. \*\*Keep yellow & blue band tubing. Note joint number and depth of bad joints on PRODUCTION EQUIPMENT FAILURE REPORT IN OPEN WELLS. Last EMI was N/A. RDMO EMI services.
- 10 If no scale or build up is witnessed on TBG string, proceed to next step. If excessive scale and build up is witnessed on TBG string, PU 4.5", 11.6#, L-80 casing scraper and TIH on 2-3/8 TBG to 7230'.
- 11 PU and TIH 10,000 psi rated RBP above and below (4.5", 11.6#, L-80) and set RBP at +/- 7190' (collars located at 7174' and 7215').
- 12 Pressure test RBP to 1,000 psi for 15 minutes.
- 13 Dump 2 sks sand on top of RBP. POOH.
- 14 Bleed off pressure. ND BOP's, ND wellhead, Un-land 4-1/2" casing but do not exceed 80% of the tubing tensile strength which is 213,600 lbs, NU dual entry flange, NU BOP. Function test and document.
- 15 PU and TIH with 1-1/4" 2.33# J-55 10rd IJ tbg outside 4-1/2" csg to +/- 1550'. Run two 2" or one 3" line(s) from starting head to return tanks. If unable to achieve at least 1 bbl/min return, call engineering for alternate procedure. Circulate with 2 sweeps of Alcomer 74L and freshwater treated with biocide to clean up annulus while TIH. Make one last sweep with Alcomer 74L at 1550'. Continue to circulate with rig pump until clean returns are seen and well is dead.
- 16 PUH to 1420.
- 17 MIRU cement company.
- 18 Commence pumping cement job at pump rate of consisting 5 bbl fresh water spacer, 59.4 bbl (250.6 sx) of Type III + with 0.5% CaCl2 at 14.8 ppg and 1.33 cuft/sk blended for a 3 hr pump time (design is for cement from 1410' to 600') with 20% excess in 9.5" hole.
- 19 TOOH with 1-1/4" tbg until EOT is at +/- 450' and circulate 2x tubing volume or until cement cleans up. TOOH remaining 1-1/4" tbg and LD all 1-1/4" tbg.
- 20 Break lines and clean up with fresh water. RDMO cement company.
- 21 ND bop, ND dual entry flange. NU 2-3/8" tbg head and BOP. Function test and document.
- 22 Leave well shut overnight.
- 23 Circulate gas out of hole with fresh water with biocide.
- 24 MIRU wireline and run CCL-GR-CBL-VDL from 1600' to surface. Verify with Evans Engineering that new TOC is at 600' or higher. In addition to normal handling of logs/job summaries, email copies of all cement job logs/job summaries and invoices to rscDJVendors@anadarko.com within 24 hours of the completion of the job.
- 25 RDMO wireline.

Well is to be worked in preparation for Greenleaf 14-2HZ Pad w/estimated primary constraint date of 3/7/2015. Current TBG head is rated to 5000 psi. FH cement design is from 1410' to 600' Nio top: 7210'; TOC: 1562'; NPV: 184M, 208' away from nearest frac. Most recent CSG pressure test: 6000 on 9/14/2009 Perfs at 7260'-7518'

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- 26 PU and TIH with 2-3/8" TBG to sand above RBP at 7190'. Reverse circulate clean and latch onto RBP, unseat RBP.
- 27 TOOH while standing back 2-3/8" TBG and laying down retrieving head and RBP.
- 28 PU & TIH with 2-3/8" NC, 2-3/8" SN, and 2-3/8" TBG. Circulate clean to 7619'. N2 may be necessary to maintain circulation.
- 29 PUH to land TBG at +/- 7475' which is approximately 1 joint above CODELL.
- 30 ND BOP, NU WH. Ensure all valves on WH are rated to minimum 5000 psi and update WH as necessary to flanged style WH. Ensure a new R-46 gasket is installed on WH.
- 31 MIRU hydrotester. Pressure test TBG head to 5000 psi for 15 minutes. After successful pressure test, proceed. RDMO hydrotester.
- 32 RU rig lubricator. Broach TBG to SN. RD rig lubricator.
- 33 RDMO WO rig. Notify Foreman or Field Coordinator of completed workover operations. Return well to production team.

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