

Engineer: Haley Nestegard
Cell Phone Number: 406-600-7094

SAFETY PREP PROCEDURE - Aquifer coverage and packer

HSR CANNON FEDERAL 5-17A

Description

1. Well needs Fox Hills Squeeze from 1405'-1605' for aquifer coverage, packer, and updated valves and fittings.
2. Contact field foreman or field coordinator before rig up to isolate production equipment if possible. Notify Automation Removal Group at least 24 hours prior to rig move. Request they catch and remove plunger, isolate production equipment, and remove any automation prior to rig MIRU.
3. MIRU Slickline. Pull production equipment. Record tag depth in OpenWells. RD slickline. Well has Gyro from 12/18/2014.
4. Prepare location for base beam equipped rig. Install perimeter fence as needed.
5. Check and record bradenhead pressure. If bradenhead valve is not accessible, re-plumb so that valve is above GL. Blow down bradenhead and re-check pressure the next day. Repeat until pressure stays at 0 psi.
6. MIRU WO rig. Kill well as necessary with biocide treated freshwater. ND wellhead, NU BOP. Unland tbg using unlanding joint and LD.
7. MIRU EMI services. EMI 2-3/8" tbg while TOOH and tally while standing back. Lay down joints that have greater than 35% penetration or wall loss. Replace all joints that fail EMI testing. Document joint numbers and depth of bad tubing and create a Production Equipment Failure Report in OpenWells. RDMO EMI services.
8. PU bit and scraper for 4.5", 11.6# casing and run to 7610'. TOOH.
9. PU and RIH with (4.5", 11.6#) RBP. Set RBP at 7780' - 61' above the top perf. Collars at 7758' and 7800'.
10. Pump biocide treated fresh water, circulate gas out, pressure test RBP and production casing to 500 psi for 15 minutes. No leakoff is acceptable. If test fails, contact Engineering. DV tool at 4952'.
11. TOOH with 1 stand of tbg. Dump 2 sx sand on top of RBP. Kick on pumps at low rate to chase sand down tubing. Do not pump at high rate causing the sand to circulate. TOOH and SB all 2-3/8" tubing.
12. MIRU WL and run CCL-GR-CBL-VDL from +/- 7780' to surface to confirm coverage. Contact engineer. RD WL. Forward to Engineering. In addition to normal handling, of logs/job summaries, email copies of all cement job logs/job summaries and invoices to DJVendors@anadarko.com within 24 hours of completion of the job. Confirm well has needed coverage with engineer.
13. MIRU WL. PU and RIH with two 3-1/8" perf guns with 3 spf, min 0.5" EHD, 120° phasing. Shoot 2' of squeeze holes at 1605' and 4' of squeeze holes at 1405'. RDMO WL.
14. PU and TIH with (4-1/2", 11.6#) packer on 2-3/8" tbg. Set packer at 1465'. Establish circulation.
15. Unset packer. TOOH and LD packer.
16. RU hydrotesters. PU and TIH with (4-1/2", 11.6#) CICR on 2-3/8" tbg. Hydrotest in to 5,000 psi. Set CICR at 1465'.
17. Establish circulation to surface for a minimum 4 hours with biocide treated fresh water, and pump 100 bbls to clean up hole. Max pump pressure is 660 psi with fresh water at 2 bpm. If unable to circulate at that pressure, contact engineer.

18. RU Cementers. Pump 10 bbls (min) of pre-flush, followed by 5 bbls fresh water spacer. Pump Squeeze: 60 sx (16.6 bbl or 93 cf) Class G cement with 0.25 lb/sk polyflake, assuming 14 ppg & 1.55 cf/sk. Max pump pressure is to be 430 psi at 2 bpm with a full column of cement. Underdisplace by approximately 1 bbl. Volume is based on 140' below the CICR inside 4-1/2", 11.6# production casing with no excess, 200' in the 4-1/2", 11.6# annulus assuming 7.88" bit size with 60% excess and 88' on top of the CICR to cover top perms. Collect wet and dry samples of cement to be left on rig. RD Cementers.
19. Pull out of cement at a rate of 1 jt/min. TOO H to 500'. Reverse circulate to ensure no cement is left in the tbg.
20. TOO H and SB all 2-3/8" tbg. LD stinger. Shut well in and WOC for a minimum of 24 hours.
21. PU and TIH with bit on 2-3/8" N-80 tubing. Drill out CICR (1465') and cement (BOC at approximately 1605')
22. MIRU WL and run CCL-GR-CBL-VDL from +/- 2000' to surface to confirm coverage. Contact engineer. Need coverage from 1405' - 1605' to continue. RD WL. Forward to Engineering. In addition to normal handling, of logs/job summaries, email copies of all cement job logs/job summaries and invoices to DJVendors@anadarko.com within 24 hours of completion of the job. Confirm well has needed coverage with engineer.
23. PU and TIH with 2-3/8" tbg. Circulate sand off RBP. Unseat and pull RBP at 7600". TOO H. LD RBP.
24. RU Hydrotesters. Hydrotest production string on the way in to 6,000 psi (80% of burst for 2 3/8" J55 tubing) below the slips. PU and TIH with 2-3/8" NC, 2-3/8" XN nipple, ~ 22 jts of of 2-3/8" tbg (to get the EOT +/- 7770') with a 10,000 psi rated Packer above and below (4.5" 11.6#) on 2-3/8"tbg. Set Packer at +/- 7030' (collars at 7014' and 7052).
25. Reverse circulate casing volume at least once to load backside with biocide + fresh water and circulate any gas out of the hole. Have SDS on lcoation. Set packer. Pressure test to 500 psi for 15 minutes. No leakoff is acceptable.
26. RU rig lubricator. Broach tubing to XN seating nipple. RD rig lubricator. ND BOP.
27. ND BOP, NU 7-1/16", 5,000 psi flanged tubing head adaptor w/ two new 2-1/16", 5,000 psi flanged master valves. Put new R46 gasket on tubing head. Install new tubing hanger ring gaskets. Install new lockdown screw packing. Ensure WH, valves, and fittings are rated to 5,000 psi. Torque and test WH.
28. If Seabord/Weir - RU hydrotester. Install 2-3/8" pup joint above master valve. Hydrotest wellhead first to 250 psi for a low pressure test for 15 minutes. Then, hydrotest wellhead to 5,000 psi for 15 minutes. Document results. No leakoff is acceptable. RD hydrotester. If GE - pressure test void first to 250 psi for a low pressure test for 15 minutes. Then, pressure wellhead to 5,000 psi for 15 minutes. Document results. No leakoff is acceptable. Bleed off all pressure from the void when you are done.
29. Secure wellhead, clean up location. RDMO WO rig. Hang HZ Safety Prep sign on wellhead.