

## William E Gee GU 2: Niobrara Suicide Squeeze/Replace WH

- 1 Well needs Niobrara suicide squeeze and a WH rated to 5000 psi.
- 2 Call automation removal group 24 hours before rig up to isolate any production equipment (remove plunger, wellhead automation, etc.). Prepare to move base beam rig onto location. Install fence if needed.
- 3 Check and report surface casing pressure. If valve is not accessible at ground level, re-plumb so valve is at ground level.
- 4 MIRU slickline. RIH to retrieve production equipment and tag for fill. Last tagged depth on 1/22/2006 was 7934'. Note tagged depth in OpenWells. RDMO slickline.
- 5 MIRU WO rig. Kill well as necessary with water and biocide. ND wellhead. NU BOP.
- 6 Unland 2-3/8" tbg and lay down landing joint.
- 7 MIRU EMI services. EMI 2-3/8" tbg while TOO H 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 10,000 psi rated from above and below CIBP (4.5", 11.6#, J-55), and 2-3/8" tubing. Set CIBP at +/- 7,830'.
- 9 Release tbg from CIBP and circulate all gas out of the hole. Pumping water with biocide, pressure test CIBP and production casing to 1,000 psi for 15 minutes. If pressure test passes, proceed; otherwise contact engineering.
- 10 Bleed off pressure and TOO H standing back all 2 3-8" tbg. Load hole with biocide treated water.
- 11 MIRU WL. PU and RIH with CCL-GR-CBL-VDL. Log from tagged CIBP depth (+/- 7,830') to surface. **Email results to nicole.schaly@anadarko.com and dave.gomendi@anadarko.com after CBL is ran. No CBL on file, so calculated TOC is 7,246'.**
- 12 **\*\*ALL BELOW STEPS ASSUME TOP OF CEMENT IN WELL AT +/- 7,246'\*\***
- 13 PU and RIH with 3-1/8" guns and shoot squeeze holes at 7,200' and 6,750' using 3 SPF, 0.42" EHD. RD WL.
- 14 PU and TIH with CICR, stinger, and 2-3/8" tbg and set CICR at 6,780'.
- 15 MIRU cementing services. Establish injection rate with water and pump 150 sx 50/50 Poz "G" with 20% silica flour, 3% gel, 0.1% sodium metasilicate and 0.4% FL-52 mixed at 13.5 ppg and 1.71 cuft/sx. (cement volumes based on 450' of 9.5" hole with 20% excess and 450' inside 4-1/2" csg with no excess.). Underdisplace cement by 1 bbl short of CICR using 25 bbl of water. Sting out of CICR and PUH 1 stand dumping remaining 1 bbl of cement on top of CICR.
- 16 Reverse circulate using approx. 52 bbls water (2 times tubing volume) or until returns are clean. RDMO cementing services.
- 17 TOO H and stand back all 2-3/8" tbg. Allow cement to set up for at least 24 hours.
- 18 PU and TIH with 3-7/8" blade bit and 2-3/8" tbg to cement top. Drill out cement to CICR and pressure test squeeze holes at 6,750' to 1,000 psi. If pressure test fails contact engineering, otherwise proceed to next step.
- 19 Drill out CICR and cement past lower perfs at 7,200' and pressure test to 1000 psi. **\*\*DON'T DRILL OUT CIBP AT 7,830'\*\*** If pressure test fails contact engineering, otherwise proceed to next step.
- 20 TOO H and stand back all 2-3/8" tubing. LD 3-7/8" bit. Load hole with biocide treated water.
- 21 MIRU wireline services. RIH with CCL-GR-CBL-VDL. Log from +/- 7,830' (depth of CIBP) to 100' above TOC (estimated to be +/- 6,750'). If the cement is not above 6,750' contact engineer. RDMO wireline services.
- 22 ND BOP.
- 23 ND existing tubing head off of 4.5" casing and install new WHI 5,000 psi flanged tubing head complete with 5,000 psi rated casing valves and XXH nipples
- 24 NU BOP.
- 25 PU and TIH with 3-7/8" blade bit and 2-3/8" tbg to CIBP at +/- 7,830'. Drill out CIBP.
- 26 TOO H and stand back all 2-3/8" tubing. LD 3-7/8" bit.
- 27 PU 2-3/8" NC, 2-3/8" XN nipple (be sure nipple is correctly input into OpenWells), and 2-3/8" 4.7# J-55 tbg to surface. Land EOT at +/- 7,840' (1 joint above the top J-sand perfs).
- 28 RU rig lubricator. Broach tubing to seating nipple. RD rig lubricator. ND BOP.
- 29 Install 7-1/16" x 5,000 psi tubing head adaptor with new 5,000 psi master valve with flanged 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 using hydrotester.

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31 RDMO WO rig. Return well to production team.