

PFISTER 3-18 (HSR)

- 1 Call foreman or lead operator at least 24 hr prior to rig move. Request that they catch and remove the plunger, isolate production equipment and remove any automation prior to rig showing up. Install perimeter fence as needed.
- 2 Provide notice of MIRU to COGCC field inspector as specified in approved form 6.
- 3 Gyro requested 9/27/13
- 4 Notify IOC when rig mobilizes to location to generate workorder for flowline removal and one call for line locates.
- 5 Prepare location for base beam equipped rig.
- 6 MIRU, circulate to remove gas and kill well as necessary using clean fresh water with biocide. ND WH. NU BOP. Unseat landing jt, LD.
- 7 Notify cement vendor with required cement volumes and types (30 sx "G" w/ 20% silica flour, 0.4% CD-32, 0.4% ASA-301 and R-3 15.8 ppg 1.38 cf/sk (in pipe only), 65 sx "G" w/ 20% silica flour, 0.4% CD-32, 0.4% ASA-301 cement with 1.15 cf/sk yield (in pipe only), 185 sx Type III cement with 1.53 cuft/sk yield.
- 8 TOOH 2-3/8" production tubing. Stand back.
- 9 MIRU WL. RIH gauge ring for 4-1/2" 11.6 #/ft to 6900'.
- 10 RIH CIBP, set at 6750' (correlate depth from Brandex CBL dated 3/29/1993). POOH. RDMO wireline.
- 11 TIH with open ended 2-3/8" tubing to just above CIBP while hydrotesting to 3000 psi. Circulate with fresh water and biocide to remove any remaining gas.
- 12 RU cement services.
- 13 Spot 30 sx "G" w/ 20% silica flour, 0.4% CD-32, 0.4% ASA-301 and R-3 15.8 ppg 1.38 cf/sk (In pipe only) from 6750' to 6275'.
- 14 PUH to 5800'. Tubing volume at 5800' approximately 23 bbls. Circulate fresh water with biocide to clear tbg. POOH, stand back tbg. WOC 4 hrs.
- 15 RIH with CCL-GR-CBL-VDL from 5800' to 3500 (there is a CBL for the top half of Sussex squeeze, but not for the bottom. Cement coverage listed in OpenWells from 4942'-3670'). ***SEND BOND LOG TO ENGINEER TO DETERMINE IF EXTRA CEMENT IS NEEDED. RUWL. PU and RIH with two 1' perf guns, each 3 spf, 0.50" EHD, 6.0" penetration, 120 deg phasing, 3 shot total perf guns and CCL. Correlate to Brandex CBL dated 1/21/2009 and perf casing at 4662'???. PUH and perf casing at 4002'???. (just below existing base of cement).

- 16 TIH with open ended 2-3/8" tubing to 4650' and spot 65 sx "G" w/ 20% silica flour, 0.4% CD-32, 0.4% ASA-301 cement with 1.15 cf/sk yield (in pipe only) from 4650' to 3820'. POOH with CCL and perf guns and RDMO WL.
- 17 PUH to 3700' with 2-3/8" tubing and circulate with drilling mud and biocide until no cement returns to surface. TOOH with tbg. SB 960', LD remainder. WOC 4 hours. RIH with 4-1/2" CICR on setting tool and 2-3/8" tubing while hydrotesting to 3000 psi, set CICR at 4062'??? in 4-1/2" casing. Establish circulation with fresh water and biocide through squeeze holes at 4662'??? and 4002'???
- 18 RU WL. Crack coupling or shoot off casing at 860'. RDMO WL. Circulate hole using drilling mud with biocide to remove any gas. RU cement services. Pump 20 bbl Sodium Metasilicate ahead of cement. Pump 440'?? sx "G" w/0.25 pps cello flake, 0.4% CD-32, 0.4% ASA-301 cement with 1.15 cf/sk yield (Cement in open hole based on 3 arm caliper. 9"-10" hole, assume 10" hole, calculate 10% excess to prevent Sussex breakdown). Under displace 3 bbl, sting out of retainer and dump remaining 3 bbl cement on top of retainer.
- 19 NDBOP, NDTH. PUH to 3700' with 2-3/8" tubing and circulate with drilling mud and biocide until no cement returns to surface. TOOH with tbg. SB 970', LD remainder. WOC 4 hours.
- 20 NU BOP on casing head, install 4-1/2" pipe rams
- 21 TOOH with 4-1/2" casing, LD.
- 22 TIH into csg stub using 2-3/8" tubing to 960'.
- 23 Pump 185 sx Type III cement with 1.53 cuft/sk yield.
- 24 PUH to 200'. Circulate tubing clean with drilling mud with biocide.
- 25 TOOH. WOC overnight.
- 26 TIH and tag. If cement is below 455', discuss with production engineer and COGCC.
- 27 RU Wireline services. RIH 8-5/8" CIBP to 100'. Set, PT to 1000psi for 15 min. If plug holds, RDMO WL and RDMO WO rig.
- 28 Supervisor submit paper copies of all invoices, logs, and reports to Sabrina Frantz.
- 29 Excavation crew to notify One Call to clear excavation area around wellhead and for flowlines.
- 30 Excavate hole around surface casing enough to allow welder to cut 8 5/8" casing minimum 5' below ground level.
- 31 Welder cut 8 5/8" casing minimum 5' below ground level.
- 32 MIRU redimix. Use 4500 psi compressive strength cement, (NO gravel) fill stubout.

- 33 Weld on steel marker plate. Marker should contain Well name, Well number, legal location (1/4 ¼ descriptor) and API number
- 34 Properly abandon flowlines per Rule 1103.
- 35 Back fill hole with fill. Clean location, level.
- 36 Submit Form 6 to COGCC ensuring to provide “As performed” WBD identifying operations completed.