

NORGREN DONALD "E" #2

- 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 MIRU slickline services and VES. Pull bumper spring, tag bottom and run gyro survey from 7900' to surface with stops every 100'. Forward gyro survey data to Sabrina Frantz and invoices to Sabrina Frantz. RDMO slickline services and VES.
- 3 Provide notice of MIRU to COGCC field inspector as specified in approved Form 6.
- 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, kill as necessary using clean fresh water with biocide and circulate. ND WH. NU BOP. Unseat landing jt, LD.
- 7 Notify cementers to be on call. Provide volumes (135 sx 50/50 Poz "G" w/ 20% silica flour, 3% gel, 0.1% sodium metasilicate and 0.4% FL-52 mixed at 13.5 ppg and 1.71 cf/sk (9.5"+20% Caliper Log in file), 525 sx class "G", w/0.25 pps cello flake, 0.4% CD-32, 0.4% ASA-301 mixed at 15.8 ppg and 1.15 cf/sx (10"+20% Caliper Log in file); 90 sx Type III CaCl<sub>2</sub> cement mixed at 14.0 ppg and 1.53 cf/sx (7.875+60%)).
- 8 TOOH 2 3/8" production tubing. Stand back.
- 9 MIRU WL. RUN CBL from TD to surface. Contact production engineer if cement is found shallower than 7200'. Confirm all CIBP, CICR, perforation and casing cut depths with CBL.
- 10 RIH gauge ring for 4.5" 11.6#/ft csg to 7750'.
- 11 RIH CIBP, set at 7710'. PT CIBP to 1000 psi. PU dump bailer, dump bail 2 sx class "G" cement on CIBP. RD WL
- 12 RU WL. PU 1' 3-1/8" perf guns with 3 spf, 0.5" dia 120° phasing. Shoot 1' of squeeze holes at 7090'. RD WL.
- 13 PU CICR on production tubing. TIH to 6750' hydrotesting tubing in to 3000 psi. Roll hole using water containing biocide.
- 14 Set CICR at 6750'. Initiate circulation through CICR using water containing biocide. Note rate and pressure.
- 15 RU cement services.

- 16 Pump 135 sx 50/50 Poz "G" w/ 20% silica flour, 3% gel, 0.1% sodium metasilicate and 0.4% FL-52 mixed at 13.5 ppg and 1.71 cf/sk. Underdisplace by 3 bbls, unsting from retainer and dump remaining 3 bbls on top of CICR.
- 17 PUH 6 stands. Circulate 105 BBL water containing biocide to clear tubing.
- 18 Place 9.0 ppg mud containing biocide from 6390' to 5020' (~22BBL). TOO H
- 19 RU WL. PU 2-1' 3-1/8" perf guns with 3 spf, 0.5" dia 120° phasing. Shoot 1' of squeeze holes at 5020' and at 4060'. RD WL.
- 20 PU CICR on production tubing and set at 4120'. Initiate circulation through CICR using water containing biocide. Note rate and pressure.
- 21 RU cement services.
- 22 Pump 525 sx class "G", w/0.25 pps cello flake, 0.4% CD-32, 0.4% ASA-301 mixed at 15.8 ppg and 1.15 cuft/sx. Underdisplace by 3 bbls, unsting from retainer and dump remaining on top of CICR.
- 23 PUH 6 stands. Circulate 60 BBL water containing biocide to clear tubing.
- 24 Place 9.0 ppg mud containing biocide from 3760' to 904' (~46BBL).
- 25 P&SB 904' tbg. LD remainder.
- 26 RU WL. Crack coupling or shoot off casing at 804'. RDMO WL. Circulate hole using 100 BBL water containing biocide to remove any gas.
- 27 NDBOP, NDTH.
- 28 NU BOP on casing head, install 4-1/2" pipe rams.
- 29 TOO H with 4-1/2" casing, LD.
- 30 TIH into csg stub using production tubing to 904'.
- 31 Spot 90 SX Type III CaCl<sub>2</sub> cement mixed at 14.0 ppg and 1.53 cuft/sx.
- 32 PUH to 350'. Circulate 22 BBLs water containing biocide to clear tubing.
- 33 TOO H. WOC 4 hrs.
- 34 TIH and tag. If cement is below 504', discuss with production engineer.
- 35 Fill casing with 9.0 ppg mud containing biocide from tag to 100'.
- 36 MIRU WL. RIH 8-5/8" CIBP to 100'. Set, PT to 1000 psi for 15 min. If tests, RDMO WL and WO rig.
- 37 Supervisor submit paper copies of all invoices, logs, and reports to Frantz, Sabrina.

- 38      Excavation crew to notify One Call to clear excavation area around wellhead and for flowlines.
- 39      Excavate hole around surface casing enough to allow welder to cut 8 5/8" casing minimum 5' below ground level.
- 40      Welder cut 8 5/8" casing minimum 5' below ground level.
- 41      MIRU ready cement mixer. Use 4500psi compressive strength cement, (NO gravel) fill stubout.
- 42      Weld on steel marker plate. Marker should contain Well name, Well number, legal location (1/4 1/4 descriptor) and API number
- 43      Properly abandon flowlines per Rule 1103.
- 44      Back fill hole with fill. Clean location, level.
- 45      Submit Form 6 to COGCC ensuring to provide "As performed" WBD identifying operations completed.