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PLUG and ABANDONMENT PROCEDURE

FORD CA GU 1

Step Description

1. Provide 48 hour notice to COGCC prior to rig up per request on approved Form 6 (e.g. call field coordinator, submit Form 42, etc.). 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.
2. MIRU Slickline . Pull production equipment and tag bottom. Record tag depth in Open Wells. Gyro was run in 08/25/11. RDMO Slickline .
3. Prepare location for base beam equipped rig. Install perimeter fence as needed.
4. Verify COAs before RU.
5. Upon RU, 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. Spot a min of 25 jts of 2-3/8" 4.7#, J-55, EUE tbg. Kill well as necessary using clean fresh water with biocide. ND WH. NU BOP. Unland tbg using unlanding joint and LD. Release packer set at 6554'.
7. TOOH and SB all 2-3/8" tbg. LD packer.
8. PU and TIH with (4-1/2", 11.6#) Bit and Scraper on 2-3/8" tbg to 7840'. TOOH, SB 7360' of 2-3/8" tbg. LD Bit and Scraper and remaining tbg.
9. MIRU WL. PU and RIH with (4-1/2", 11.6#) CIBP and set at +/- 7830'. POOH. RIH and dump 2 sx cement on CIBP. POOH.
10. PU and RIH with (4-1/2", 11.6#) CIBP and set at +/- 7360' (collars at 7342' & 7376'). POOH. RDMO WL.
11. TIH with 2-3/8" tbg to 5000' . Load hole with biocide treated fresh water and circulate all gas out of well. TOOH and SB 2-3/8" tbg.
12. MIRU WL. RIH and run CBL from 5000' to surface. Forward CBL to Platteville office. Cementing plans may change depending on CBL results. RDMO WL.
13. MIRU hydrotesters. TIH with 2-3/8" tbg to 7360' while hydrotesting to 3000 psi. RDMO hydrotesters. PT CIBP to 500psi for 15 minutes.
14. MIRU Cementers. Pump Niobrara Balance Plug: Pump 40 sx (62 cf), assuming 15.8 ppg & 1.53 cf/sk. Volume based on 620' inside 4-1/2", 11.6# production casing with no excess. Cement will be from 7360'-6740'. RD cementers.
15. Slowly pull out of the cement and TOOH to 6240'. Reverse circulate using biocide treated fresh water, to ensure the tubing is clean. TOOH to 4950'. LD remaining tbg.
16. MIRU Cementers. Pump Sussex Balance Plug: Pump 60 sx (92 cf), assuming 15.8 ppg & 1.53 cf/sk. Volume based on 850' inside 4-1/2", 11.6# production casing with no excess. Cement will be from 4950'-4100'. RD cementers.
17. Slowly pull out of the cement and TOOH to 3600'. Reverse circulate using biocide treated fresh water, to ensure the tubing is clean. TOOH and SB 830' of 2-3/8" tbg. LD remaining tbg.
18. MIRU WL. RIH and Tag cement. Cement top needs to be at or above 4261' (Sussex top at 4461'). Notify engineering if cement top is lower than 4261'. POOH. 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 1380' and 4' of squeeze holes at 800'. RDMO WL.
19. PU and TIH with (4-1/2", 11.6#) CICR on 2-3/8" tbg. Set CICR at 830'.
20. Establish circulation to surface with biocide treated fresh water, and pump 100 bbls to clean up hole.
21. **The following two plugs will be pumped back-to-back.
22. RU Cementers. Pump 10 bbls (min) of pre-flush, followed by 5 bbls fresh water spacer. Pump Fox Hills Squeeze: 205 sx (310 cf) with 0.25 lb/sk polyflake, assuming 15.8 ppg & 1.51 cf/sk. Volume is based on 550' below the CICR inside 4-1/2", 11.6# production casing with no excess, 580' in the 4-1/2", 11.6# annulus assuming 7.88" bit size with 60% excess. SB cementers.

23. Unsting from CICR. RU Cementers. Pump Fox Hills Balance plug: 50 sx (77 cf), assuming 15.8 ppg & 1.53 cf/sk. Volume based on 830' inside 4-1/2", 11.6# production casing with no excess. Cement will be from 830'-Surface. RDMO cementers.
24. Slowly pull out of the cement and TOO H to 100'. Reverse circulate using biocide treated fresh water, to ensure the tubing is clean. TOO H, LD stinger and all 2-3/8" tbg.
25. MIRU WL. Tag cement as needed. RIH 4-1/2", 11.6# CIBP to 80'. RDMO WL and WO rig.
26. Instruct cementing and wireline contractors to e-mail copies of all job logs/job summaries to rscDJVendors@anadarko.com within 24 hours of completion of the job.
27. Supervisor submit paper copies of all invoices, logs, and reports to VWP Engineering Specialist.
28. Excavation crew to notify One Call to clear excavation area around wellhead and for flow lines.
29. Capping crew will set and secure night cap on 4-1/2", 11.6# casing head, restrain the casing head, pressure test CIBP to 500 psi with hydrotest pump, then remove night cap and casing head restraints.
30. Excavate hole around surface casing enough to allow welder to cut casing a minimum 5' below ground level.
31. Welder cut casing minimum 5' below ground level.
32. Fill surface AND production casing to surface using 4500 psi compressive strength cement (NO gravel).
33. Spot weld on steel marker plate. Marker should contain Well name, Well number, legal location (1/4 1/4 descriptor) and API number.
34. Obtain GPS location data as per COGCC Rule 215 and send to rscDJVendors@anadarko.com.
35. Properly abandon flow lines per Rule 1103. File electronic Form 42 once abandonment is complete.
36. Back fill hole with fill. Clean location, and level.
37. Submit Form 6 to COGCC ensuring to provide 'As performed' WBD identifying operations completed.