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PLUG and ABANDONMENT PROCEDURE

UPRR 39 AMOCO D 2

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 on 11/22/14. 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 147 jts of 2-3/8" 4.7#, J-55, EUE tbg. Kill well as necessary using biocide treated fresh water. Verify BOP and wellhead rating, inspect for appropriate API standards, pressure test BOP according to VWP BOP testing guidelines. ND WH. NU BOP. Unland tbg using unlanding joint and LD.
7. TOOH and SB all 2-3/8" tbg.
8. PU and TIH with (4-1/2", 11.6#) Bit and Scraper on 2-3/8" tbg to 4460'. TOOH and SB 4450' 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 +/- 4450' (no CCL coverage here). POOH. RDMO WL.
10. TIH with 2-3/8" tbg to 4450' Load hole with biocide treated fresh water and circulate all gas out of well. TOOH and SB 2-3/8" tbg.
11. MIRU WL. RIH and run CBL from 4450' to surface. Forward CBL to Platteville office. Cementing plans may change depending on CBL results. TIH with 2-3/8" tbg to 4450'. PT CIBP to 1000psi for 15 minutes.
12. MIRU Cementers. Pump Niobrara Balance Plug: Pump 40 sx (11 bbl or 62 cf) Class G Cement, assuming 15.8 ppg & 1.53 cf/sk. Volume based on 630' inside 4-1/2", 11.6# production casing with no excess. Cement will be from 4450'-3820'. Collect wet and dry samples of cement to be left on rig. RDMO Cementers.
13. Pull out of cement at a rate of 1 jt/min. TOOH, SB 2360' 2-3/8" tbg. LD remaining tbg.
14. 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 2500' and 4' of squeeze holes at 2300'. RDMO WL.
15. PU and TIH with (4-1/2", 11.6#) CICR on 2-3/8" tbg. Set CICR at 2360'.
16. Establish circulation to surface with biocide treated fresh water, and pump 100 bbls to clean up hole. Max pump pressure is 1033 psi with fresh water at 2 bpm. If unable to circulate at that pressure, contact engineer.
17. RU Cementers. Pump 10 bbls (min) of pre-flush, followed by 5 bbls fresh water spacer. Pump Squeeze: 80 sx (22.1 bbl or 124 cf) Class G cement with 0.25 lb/sk polyflake, assuming 14 ppg & 1.55 cf/sk. Max

pump pressure is to be 690 psi at 2 bpm with a full column of cement. Underdisplace by 4 bbls. 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 7.875" bit size with 100% excess and 255' on top of the CICR to cover top perms. Collect wet and dry samples of cement to be left on rig. RDMO Cementers.

18. Pull out of cement at a rate of 1 jt/min. TOOH to 1605'. Reverse circulate to ensure no cement is left in the tbg.
19. TOOH and SB 550' of 2-3/8" tbg. LD stinger, and remaining tbg.
20. TIH with mule shoe and 2-3/8" tubing to 550'.
21. Establish circulation to surface with biocide treated fresh water.
22. MIRU Cementers. Pump Fox Hills Balance Plug: Pump 35 sx (9.7 bbl or 55 cf) Class G cement, assuming 14 ppg & 1.55 cf/sk. Volume is based on 550' in 4-1/2", 11.6# production casing with no excess. The plug is designed to cover 550'-0'. Verify and document cement to surface. Collect wet and dry samples of cement to be left on rig. RDMO Cementers.
23. Pull out of cement at a rate of 1 jt/min. TOOH, LD all 2-3/8" tbg. Tag cement as needed to verify cement to surface. RDMO WO rig.
24. 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.
25. Supervisor submit paper copies of all invoices, logs, and reports to VWP Engineering Specialist.
26. Excavation crew to notify One Call to clear excavation area around wellhead and for flow lines.
27. Excavate hole around surface casing enough to allow welder to cut casing a minimum 5' below ground level.
28. Welder cut casing minimum 5' below ground level.
29. Spot weld on steel marker plate. Marker should contain Well name, Well number, legal location (1/4 1/4 descriptor) and API number.
30. Obtain GPS location data as per COGCC Rule 215 and send to rscDJVendors@anadarko.com.
31. Properly abandon flow lines per Rule 1103. File electronic Form 42 once abandonment is complete.
32. Back fill hole with fill. Clean location, and level.
33. Submit Form 6 to COGCC ensuring to provide 'As performed' WBD identifying operations completed.