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PLUG and ABANDONMENT PROCEDURE

HSR-WENZEL 6-29

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 and VES. WELL NEEDS GYRO RUN. Run gyro to 8040', making stops every 100'. RDMO Slickline and VES.
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 8 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 8250'. (tag existing CIBP at 8250', if no plug contact engineering). TOOH and SB 7160' of 2-3/8" tbg. LD Bit and Scraper and remaining tbg.
9. MIRU WL. RIH and dump 2 sx cement on CIBP. POOH.
10. PU and RIH with (4-1/2", 11.6#) CIBP and set at +/- 8000' (collars at 7972' & 8014'). POOH. RIH and dump 2 sx cement on CIBP. POOH.
11. PU and RIH with (4-1/2", 11.6#) CIBP and set at +/- 7160' (collars at 7142' & 7184'). POOH. RDMO WL.
12. TIH with 2-3/8" tbg to 7160'
13. Load hole with biocide treated fresh water and circulate all gas out of well. PT CIBP to 1000 psi for 15 minutes.
14. MIRU Cementers. Pump Niobrara Balance Plug: Pump 25 sx (6.9 bbl or 39 cf) Class G Cement, assuming 15.8 ppg & 1.53 cf/sk. Volume based on 400' inside 4-1/2", 11.6# production casing with no excess. Cement will be from 7160'-6760'. Collect wet and dry samples of cement to be left on rig. RDMO Cementers.
15. Pull out of cement at a rate of 1 jt/min. TOOH, SB 4730' 2-3/8" tbg. LD remaining tbg.
16. TIH with mule shoe and 2-3/8" tubing to 1635'.
17. Establish circulation to surface with biocide treated fresh water.
18. MIRU Cementers. Pump Fox Hills Balance Plug: Pump 80 sx (22.1 bbl or 124 cf) Class G cement, assuming 14 ppg & 1.55 cf/sk. Volume is based on 1421' in 4-1/2", 11.6# production casing with no excess. The plug is designed to cover 1635'-214'. Collect wet and dry samples of cement to be left on rig. RDMO Cementers.
19. Pull out of cement at a rate of 1 jt/min. TOOH to 150'. Reverse circulate using biocide treated fresh water to ensure the tubing is clean. TOOH, SB 320' 2-3/8" tbg. WOC.

20. TIH with mule shoe on 2-3/8" tbg and tag cement to verify appropriate coverage above the surface casing shoe. Pressure test casing to 500 psi and hold for 15 minutes. TOOH to 150', LD 2-3/8" tbg.
21. MIRU Cementers. Pump Surface Plug: Pump 15 sx (3.2 bbl or 18 cf) Class G cement, assuming 15.8 ppg & 1.15 cf/sk. Volume based on 150' inside 4-1/2", 11.6# production casing with no excess. Cement will be from 150' to surface. Verify and document cement to surface. Collect wet and dry samples of cement to be left on rig. RDMO Cementers.
22. 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.
23. 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.
24. Supervisor submit paper copies of all invoices, logs, and reports to VWP Engineering Specialist.
25. Excavation crew to notify One Call to clear excavation area around wellhead and for flow lines.
26. Excavate hole around surface casing enough to allow welder to cut casing a minimum 5' below ground level.
27. Welder cut casing minimum 5' below ground level.
28. Spot weld on steel marker plate. Marker should contain Well name, Well number, legal location (1/4 1/4 descriptor) and API number.
29. Obtain GPS location data as per COGCC Rule 215 and send to rscDJVendors@anadarko.com.
30. Properly abandon flow lines per Rule 1103. File electronic Form 42 once abandonment is complete.
31. Back fill hole with fill. Clean location, and level.
32. Submit Form 6 to COGCC ensuring to provide 'As performed' WBD identifying operations completed.