



Engineer: Tom Urbanek

Cell: 303-241-5331

Date: 12/17/2014

PLUG AND ABANDONMENT PROCEDURE

BOLET RED X 15-15, API: 05-123-16782

Steps

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.). Call Automation Removal Group at least 24 hours prior to rig move. Request they isolate production equipment and remove any automation prior to rig MIRU.
2. MIRU slickline services. Pull bumper spring and tag bottom. RDMO slickline services.
3. Prepare location for base beam equipped rig. Install perimeter fence as needed.
4. Check and record Braden head pressure. If Braden head valve is not accessible, re-plumb so that valve is above GL. Report any Braden head pressure to engineer
5. MIRU, kill as necessary using clean fresh water with biocide. NDWH. NUBOP. Unseat landing jt, LD.
6. Notify cementers to be on call. Provide volumes listed below:
 - 6.1 Niobrara balance plug: 25 sx (34.4 cu-ft) "G" w/20% silica flour, 0.4% CD-32, 0.4% ASA-301, and R-3 to achieve 2:30 pump time. Mix at 15.8 ppg and 1.38 cu-ft/sk. Cement volume based on 670' in 3 1/2" casing with 0% extra.
 - 6.2 Sussex balance plug: 20 sx (22.9 cu-ft) "G", 0.4% CD-32, 0.4% ASA-301, mixed at 15.8 ppg and 1.15 cu-ft/sk. Cement volume based on 450' in 3 1/2" casing with 0% extra.
 - 6.3 Foxhills plug: 540 sx (718 cu-ft) Type III w/cello flake and CaCl₂ as necessary, mixed at 14.8 ppg and 1.33 cu-ft/sk. Cement volume based on 100' in an 11" annulus with 40% excess, 604' a in 11" OH with 40% excess and 200' in 8-5/8" surface casing.
7. TOOH with 1.9" TBG landed at 7107'. SB TBG.
8. RU WL. RIH to 7100' with Gauge Ring and Junk Basket.
9. PU 3.5" CIBP and RIH w/WL. Set at +/-7080' to abandon Codell perms. PT to 3000 psi. RD WL.
10. TIH with 1.9" TBG to 7070' and circulate hole to remove all excess gas. Hydrotest TBG to 3000 psi while TIH.
11. RU cementers. Pump Niobrara balance plug: 25 sx (34.4 cu-ft) "G" w/20% silica flour, 0.4% CD-32, 0.4% ASA-301, and R-3 to achieve 2:30 pump time. Mix at 15.8 ppg and 1.38 cu-ft/sk. Plug to cover from 7070'-6400' in 3 1/2" casing.
12. PUH to 6000' and circulate to clear tubing and displace cement.
13. POOH TBG to 4600'.
14. RU Cementers.
15. Pump Sussex balance plug: 20 sx (22.9 cu-ft) "G", 0.4% CD-32, 0.4% ASA-301, mixed at 15.8 ppg and 1.15 cu-ft/sk to place cement. Plug to cover from 4600'-4150' in 3.5" casing.
16. PUH to 3750' and circulate to clear tubing and displace cement.
17. WOC 4 hr or per cementing contractor recommendation. RIH & tag plug. Plug to be at 4200' or above.

18. POOH TBG. SB approximately 1530' of TBG, LD remainder.
19. Shoot off casing at or below 1410'. RD WL. Circulate casing with water containing biocide to remove any excess gas.
20. ND BOP, ND TH. Install BOP on casing head with 3.5" pipe rams.
21. TOOH 3.5" casing, LD. Replace 1.9" pipe rams.
22. RIH with 1.9" tubing to +/- 1510'.
23. RU cementers. Precede cement with 10 bbl SAPP and a 20 bbl (minimum) fresh water spacer.
24. Pump Foxhills plug: 540 sx (718 cu-ft) Type III w/cello flake and CaCl₂ as necessary, mixed at 14.8 ppg and 1.33 cu-ft/sk. Plug to cover from 1510-1410' in an 11" OH annulus with 40% excess, 1410-804' in an 11" OH with 40% excess, and 804-600' in 8 5/8" casing.
25. PUH to 300' and circulate clean. TOOH and WOC per cement company recommendations.
26. RIH with 1.9" tubing and tag cement at or above 600'. If not consult with Evans Engineering. POOH and LD.
27. RU WL. PU 8 5/8" 24# CIBP and RIH to 80'. Set and PT to 1000 psi for 15 minutes. If tests, RDMO WL and WO rig.
28. Instruct cementing and wireline contractors to email copies of all job logs/jobs summaries to rscDJVendors@anadarko.com within 24 hours of completion of the job.
29. Supervisor is to submit paper copies of all invoices, logs, and reports to Joleen Kramer.
30. Excavation crew to notify One Call to clear excavation area around wellhead and for flowlines.
31. Excavate hole around surface casing enough to allow welder to cut casing minimum 5' below ground level.
32. Welder cut casing minimum 5' below ground level.
33. Fill casing to surface using 4500 psi compressive strength cement, (NO gravel).
34. Spot weld on steel marker plate. Marker should contain Well name, Well number, legal location (1/4 1/4 descriptor) and API number.
35. Obtain GPS location data as per COGCC Rule 215 and send to rscDJVendors@anadarko.com.
36. Properly abandon flowlines per Rule 1103. File electronic Form 42 once abandonment complete.
37. Back fill hole with fill. Clean location, level.