

## PLUG and ABANDONMENT PROCEDURE

### Roth 6-18

Step	Description of Work
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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 bumper spring and tag bottom. Record tag depth in Open Wells. RD slickline.
3. Prepare location for base beam equipped rig. Install perimeter fence as needed.
4. 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.
5. 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.
6. TOOH and SB 6860' 2-3/8" tbg. LD packer and remaining tbg.
7. PU and RIH with (4.5", 11.6#) Bit and Scraper on 2-3/8" tbg to 6860'.TOOH.
8. RU WL. PU and RIH with (4.5", 11.6#) CIBP and set at +/- 6850' to abandon the Nio/Codell perms. TOOH. RD WL.
9. TIH with 2-3/8" tbg while hydrotesting to 3000 psi to 6850'. Circulate all gas from well. PT CIBP to 1000 psi for 15 minutes.
10. RU cementers. Pump Niobrara Balance Plug: Pump 25 sxs (39 cf) 15.8 ppg & 1.55 cf/sk. Volume based on 400' inside 4-1/2" production casing. Cement will be from 6850' – 6450'. RD cementers.
11. Slowly pull out of the cement and PUH to 6000'. Reverse circulate tubing clean to ensure no cement is left in the tubing.
12. LD tbg while PUH to 4220'.
13. Establish circulation to surface with biocide treated fresh water.
14. RU Cementers. Pump Sussex Balance Plug: Pump 35 sx (41 cf), assuming 15.8 ppg & 1.17 cf/sk. Volume is based on 410' inside 4-1/2" production casing with no excess. Cement will be from 4220' – 3810'.
15. Slowly pull out of the cement and PUH to 3000'. Reverse circulate to ensure no cement is left in the tbg.
16. Due to the Sussex being NON-PRODUCTIVE in this area, we do NOT need to tag our Sussex plug.
17. LD tbg while PUH to 1200'.
18. Establish circulation to surface with biocide treated fresh water.
19. RU Cementers. Pump Fox Hills Plug: 65 sxs (76 cf), 15.8 ppg & 1.16 cf/sk (840' in 4-1/2" production casing with no excess). The plug will cover 1200' – 359' RD cementers.
20. Slowly pull out of the cement and PUH to 100'. Reverse Circulate using biocide treated fresh water, to ensure the tubing is clean.
21. WOC per cement company recommendation. TIH and tag cement. Cement top needs to be at or above 509' (50' above the surface casing shoe at 559'). Call Engineering if tag is lower than 509'. PU and TOOH.

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22. RU WL. RIH 4-1/2" (11.6#) CIBP to 80'. RDMO WL and WO rig.
23. Instruct cementing and wireline contractors to e-mail copies of all job logs/job summaries to [rscDJVendors@anadarko.com](mailto:rscDJVendors@anadarko.com) within 24 hours of completion of the job.
24. Supervisor submit paper copies of all invoices, logs, and reports to Evans Engineering Specialist.
25. Excavation crew to notify One Call to clear excavation area around wellhead and for flow lines.
26. Capping crew will set and secure night cap on 4 1/2" casing head, restrain the casing head, pressure test CIBP to 500 psi with hydrotest pump, then remove night cap and casing head restraints.
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. Fill casing to surface using 4500 psi compressive strength cement (NO gravel).
30. Spot weld on steel marker plate. Marker should contain Well name, Well number, legal location (1/4 1/4 descriptor) and API number.
31. Obtain GPS location data as per COGCC Rule 215 and send to [rscDJVendors@anadarko.com](mailto:rscDJVendors@anadarko.com).
32. Properly abandon flow lines per Rule 1103. File electronic Form 42 once abandonment is complete.
33. Back fill hole with fill. Clean location, and level.
34. Submit Form 6 to COGCC ensuring to provide 'As performed' WBD identifying operations completed.