

PLUG AND ABANDONMENT PROCEDURE

Peppler 4-30

1. Note: Production Casing = 4 1/2" OD, 11.6#/ft; Production Hole Drilled @ 7 7/8."
2. Provide 48 hr notice to COGCC prior to rig up per request on approved Form 6 (e.g. call field coordinator, submit Form 42, etc.). Call IOC (970-506-5980) at least 24 hr prior to rig move. Request they catch and remove plunger, isolate production equipment and remove any automation prior to rig MIRU.
3. MIRU slickline services. Pull bumper spring and tag bottom. RD slickline.
4. Prepare location for base beam equipped rig.
5. Check and record Bradenhead pressure. If Bradenhead valve is not accessible, re-plumb so that valve is above GL.
6. MIRU, kill as necessary using clean fresh water with biocide and circulate. ND WH. NU BOP. Unseat landing jt, LD.
7. Notify cementers to be on call. Provide volumes listed below:
 - 7.1 Niobrara Balanced Plug: 41 cu ft/ 30 sx "G" w/20% silica flour, 0.4% CD-32, 0.4% ASA-301 and R-3 to achieve 2:30 pump time, mixed at 15.8 ppg and 1.38 cuft/sk yield (400' inside 4-1/2" casing).
 - 7.2 SX Balanced Plug: 34 cu ft/ 30 sx class "G" w/ 0.4% CD-32, 0.4% ASA-301 mixed at 15.8 ppg and 1.15 cf/sx (400' inside 4-1/2" casing, no excess).
 - 7.3 Stub Plug: 160 cu ft/ 120 sx Type III CaCl₂ cement w/0.25 pps cello flake mixed at 14.8 ppg and 1.33 cf/sx (100' inside 4-1/2" csg, 146' in 9" OH + 20% excess, and 204' in 8-5/8" surface casing).
8. TOO H 2-3/8" OD production tubing. Stand back.
9. MIRU WL. RIH gauge ring for 4-1/2", 11.6#/ft casing to 6980'. POOH.
10. RIH CIBP w/ WL. Set at +/- 6900'. POOH. PT CIBP to 1000 psi for 15 minutes. POOH. RD WL.
11. RIH 2-3/8" tbg while hydrotesting tbg to 3000 psi to 6900'. Tag CIBP and pick up 5'.
12. RU Cementers. Pump Niobrara Balanced Plug: 41 cu ft/ 30 sx "G" w/20% silica flour, 0.4% CD-32, 0.4% ASA-301 and R-3 15.8 ppg and 1.38 cuft/sk yield (400' inside 4-1/2" Casing, no excess) to place cement from 6900' to 6500'.
13. PUH to 6300'. Circulate 100 bbls water containing biocide to clear tubing. PUH to 4400' LD tubing.
14. RU Cementers. Pump SX Balanced Plug: 34 cu ft/ 30 sx class "G" w/ 0.4% CD-32, 0.4% ASA-301 mixed at 15.8 ppg and 1.15 cf/sx (400' inside 4-1/2" casing) to place cement from 4400' to 4000'.
15. PUH to 3800'. Circulate 60 bbls water containing biocide to clear tubing. WOC 4 hours.
16. Tag TOC at or above 4000' w/ 2-3/8" OD tubing. If plug is tagged deeper than 4000' contact engineering. Then, TOO H and LD all but 970' of tbg.
17. RU WL. Shoot off casing at or below 870'. RDMO WL. Circulate water containing biocide to remove any gas.
18. NDBOP, NDTH.
19. Install BOP on casing head with 4-1/2" pipe rams.
20. TOO H with 4-1/2" casing, LD.
21. RIH with 2-3/8" OD tubing to 970'.
22. RU Cementers. Pump 10 bbl SAPP with a minimum of 20 bbl fresh water spacer. Spot Stub Plug: 160 cu ft/ 120 sx Type III CaCl₂ cement w/0.25 pps cello flake mixed at 14.8 ppg and 1.33 cf/sx (100' in 4-1/2" prod casing, 146' in 9" OH + 20% excess, and 204' in 8-5/8" surface casing) from 970' to 520'.
23. PUH to 300'. Circulate 10 bbls water containing biocide to clear tubing.
24. TOO H. WOC 4 hrs. Tag Cement. Cement top needs to be above 520'; Proceed assuming TOC is above 520'. Otherwise, call production engineer.
25. MIRU WL. RIH 8-5/8" CIBP to 80'. Set, PT to 1000 psi for 15 min. If tests, RDMO WL and WO rig.

26. Instruct cementing and wireline contractors to e-mail copies of all job logs/job summaries and invoices to rscDJVendors@anadarko.com within 24 hrs of the completion of the job.
27. Supervisor submit paper copies of all invoices, logs, and reports to Joleen Kramer.
28. Excavation crew to notify One Call to clear excavation area around wellhead and for flowlines.
29. Excavate hole around surface casing enough to allow welder to cut 8 5/8" casing minimum 5' below ground level.
30. Welder cut 8 5/8" casing minimum 5' below ground level.
31. MIRU ready cement mixer. Use 4500 psi compressive strength cement, (NO gravel) fill stubout.
32. Spot weld on steel marker plate. Marker should contain Well name, Well number, legal location (1/4 1/4 descriptor) and API number.
33. Obtain GPS location data as per COGCC Rule 215 and send to rscDJVendors@anadarko.com.
34. Properly abandon flowlines per Rule 1103.
35. Back fill hole with fill. Clean location, level.
36. Submit Form 6 to COGCC ensuring to provide 'As performed' WBD identifying operations completed. File electronic Form 42 once abandonment complete.