

PLUG AND ABANDONMENT PROCEDURE

Dipaolo Red W 25-16

1. Note: Production Casing = 2-7/8" OD, 8.7#/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 foreman or lead operator at least 24 hr prior to rig move. Request they catch and remove the plunger, isolate production equipment and remove any automation prior to rig showing up. Install perimeter fence as needed.
3. MIRU slickline services. Pull bumper spring and tag bottom. RDMO SL.
4. Prepare location for base beam equipped rig.
5. MIRU, kill as necessary using clean fresh water with biocide and circulate. ND WH. NU BOP. Unseat landing jt, LD.
6. Notify cementers to be on call. Provide volumes listed below:
 - 6.1 Niobrara Balanced Plug: 27 cu ft/20 sx class G w/ 20% silica flour, 0.4% CD-32, 0.4% ASA-301 and R-3 mixed at 15.8 ppg and 1.38 cuft/sk (650' inside 2-7/8" Casing, no excess)
 - 6.2 SX Wiper Plug: 379 cu ft/330 sx class "G" w/0.25 pps cello flake, 0.4% CD-32, 0.4% ASA-301 mixed at 15.8 ppg and 1.15 cf/sx (600' in 10" + 20% excess and 600' in 2-7/8" casing, no excess).
 - 6.3 Stub Plug: 678 cu ft/510 sx Type III CaCl₂ cement w/0.25 pps cello flake mixed at 14.8 ppg and 1.33 cf/sx (100' in 2-7/8" casing, 514' in 10-1/4" OH + 40% excess, and 206' in 8 5/8" surface casing).
7. TOOH 1.66" OD production tubing. Stand Back.
8. MIRU Warrior WL. RIH gauge ring for 2-7/8" 8.7#/ft casing to 7430'. POOH.
9. Run gyro survey from 7450' to surface with stops every 100'. Forward gyro survey data and invoices to Sabrina Frantz.
10. RIH CIBP w/ WL. Set at +/- 7390' (collars located at 7370' and 7403'). Pressure test CIBP to 1000 psi. RD WL.
11. RIH to 7390' with 1.66" OD tbg hydrotesting to 3000 psi.
12. RU Cementers. Pump Niobrara Balanced Plug: 27 cu ft/20 sx class G w/ 20% silica flour, 0.4% CD-32, 0.4% ASA-301 and R-3 mixed at 15.8 ppg and 1.38 cuft/sk to place cement in 2-7/8" production casing from 7390' to 6740'.
13. PUH to 6000'. Circulate tubing clean. Then, TOOH.
14. MIRU WL. PU 2" RTG perf gun with 3 spf, 0.5" dia 120deg phasing. Shoot 1' of squeeze holes at 4895'. RDMO WL.
15. Establish circulation down 2-7/8" and out 8-5/8" surface casing. RU Cementers. Pump: 379 cu ft/330 sx class "G" w/0.25 pps cello flake, 0.4% CD-32, 0.4% ASA-301 mixed at 15.8 ppg and 1.15 cf/sx to squeeze cement into annulus and place in casing from 4895' to 4295'. Follow w/wiper plug and displace to 4295'. Shut well in to prevent flowback. WOC 4 hrs and tag TOC. Notify engineering if tag depth is deeper than 4295'.

16. RU WL. Shoot off casing at or below 1580'. RDMO WL. Circulate one full circulation with water containing biocide to remove any gas.
17. NDBOP, NDTH.
18. Install BOP on casing head with 2-7/8" pipe rams.
19. TOOH with 2-7/8" casing, LD.
20. RIH with 1.66" OD tubing to 1680'.
21. RU Cementers. Pump Stub Plug: 678 cu ft/510 sx Type III CaCl₂ cement w/0.25 pps cello flake mixed at 14.8 ppg and 1.33 cf/sx from 1680' to 860' (100' in 2-7/8", 514' in 10-1/4" OH + 40% excess, and 206' in 8 5/8" surface casing).
22. PUH to ~300'. Circulate 5 bbls water containing biocide to clear tubing.
23. TOOH. WOC 4 hrs. Tag Cement. Cement top needs to be above 860'; Proceed assuming TOC is above 860'. Otherwise, call production engineer.
24. MIRU WL. RIH 8 5/8" CIBP to 80'. Set, PT to 1000 psi for 15 min. If tests, RDMO WL and WO rig.
25. 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.
26. Supervisor submit paper copies of all invoices, logs, and reports to Joleen Kramer.
27. Excavation crew to notify One Call to clear excavation area around wellhead and for flowlines.
28. Excavate hole around surface casing enough to allow welder to cut 8 5/8" casing minimum 5' below ground level.
29. Welder cut 8 5/8" casing minimum 5' below ground level.
30. MIRU ready cement mixer. Use 4500 psi compressive strength cement, (NO gravel) fill stubout.
31. Spot weld on steel marker plate. Marker should contain Well name, Well number, legal location (1/4 1/4 descriptor) and API number.
32. Properly abandon flowlines per Rule 1103.
33. Back fill hole with fill. Clean location, level.
34. Submit Form 6 to COGCC ensuring to provide 'As performed' WBD identifying operations completed. File electronic Form 42 once abandonment complete.