

PLUG AND ABANDONMENT PROCEDURE

HSR-Melvin Camp 12-31

1. Note: Production Casing = 2-7/8" OD, 6.5#/ft, J-55; 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 Automation Removal Group 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 services.
4. Prepare location for base beam equipped rig. Install perimeter fence as needed.
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 Plug: 20 cu ft/15 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 (400' inside 2-7/8" Casing, no excess)
 - 7.2 SX Wiper Plug: 287 cu ft/250 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 (400' in 10.5" OH + 20% excess and 400' inside 2-7/8" casing, no excess).
 - 7.3 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 (713' in 10.5" OH + 40% excess, and 207' in 8 5/8" surface casing).
8. TOOH 1.66" production tubing. Stand back.
9. RU WL. RIH gauge ring to 7100'. TOOH.
10. PU CIBP and RIH to 7050'. Set at +/- 7050'. RD WL. POOH. PT CIBP to 2500 psi (1994 Vintage).
11. RU Cementers. Pump Niobrara Plug: 20 cu ft/ 15 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 7050' to 6660'.
12. PUH to 6300'. Circulate tubing clean. Then, TOOH.
13. MIRU WL. PU 1-11/16" perf gun with 3 spf, 0.37" EHD 120deg phasing. Shoot 1' of squeeze holes at 4580'. RDMO WL.
14. Establish circulation down 2-7/8" and up the annulus. If unable to circulate, plan on cutting off casing at 4580'.
15. RU Cementers. Pump: 5 bbl water w/biocide, 20 bbl Sodium Metasilicate, and another 5 bbl spacer immediately preceding cement. Pump 287 cu ft/ 250 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 4580' to 4180'. Follow w/wiper plug and displace to 4180'.
16. WOC 4 hrs or cement company's recommendation and tag TOC. Notify engineering if tag depth is deeper than 4180'.
17. If PT passed in Step 10, LD 1.66" tbg.

18. RU WL. Shoot off casing at or below 1460'. RDMO WL. Circulate casing with water containing biocide to remove any gas. RD WL.
19. NDBOP, NDTH.
20. Install BOP on casing head with 2-7/8" pipe rams.
21. If PT passed from Step 10, plan on using 2-7/8" as a WS. If PT failed, pull 2-7/8" casing and hydrotest 2-7/8" back in hole.
22. RIH with workstring to 1460'.
23. RU Cementers. Pump 10 bbl SAPP with a minimum of 20 bbl fresh water spacer. 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 1460' to 540'.
24. PUH to ~300'. Circulate 20 bbls water containing biocide to clear tubing.
25. TOOH. WOC 4 hrs. Tag Cement. Cement top needs to be above 647'; Proceed assuming TOC is above 647'. Otherwise, call production engineer.
26. MIRU WL. RIH 8 5/8" CIBP to 80'. Set, PT to 1000 psi for 15 min. If tests, RDMO WL and WO rig.
27. 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.
28. Supervisor submit paper copies of all invoices, logs, and reports to Joleen Kramer.
29. Excavation crew to notify One Call to clear excavation area around wellhead and for flowlines.
30. Excavate hole around surface casing enough to allow welder to cut 8 5/8" casing minimum 5' below ground level.
31. Welder cut 8 5/8" casing minimum 5' below ground level.
32. MIRU ready cement mixer. Use 4500 psi compressive strength cement, (NO gravel) fill stubout.
33. Spot weld on steel marker plate. Marker should contain Well name, Well number, legal location (1/4 1/4 descriptor) and API number.
34. Obtain GPS location data as per COGCC Rule 215 and send to rscDJVendors@anadarko.com.
35. Properly abandon flowlines per Rule 1103.
36. Back fill hole with fill. Clean location, level.
37. Submit Form 6 to COGCC ensuring to provide 'As performed' WBD identifying operations completed. File electronic Form 42 once abandonment complete.