

PLUG AND ABANDONMENT PROCEDURE

HSR-Melvin Camp 11-31 | API: 05-123-18278

1. Note: Production Casing = 2 7/8" OD, 6.5#/ft, J-55; Production Hole Drilled 7 7/8" to 7484'.
2. Note: Production Tubing = 1.66" OD, 2.33#/ft, J-55 set at 7325'.
3. 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.).
4. MIRU slickline. Pull bumper spring and tag bottom. RDMO slickline services.
5. Prepare location for base beam equipped rig. Install perimeter fence as needed.
6. Check and record Bradenhead pressure. If Bradenhead valve is not accessible, re-plumb so that valve is above GL.
7. MIRU, kill as necessary using clean fresh water with biocide. ND WH. NU BOP. Unseat landing joint.
8. POOH and SB 7100' of tubing.
9. Notify cementers to be on call. Provide volumes listed below:
 - 9.1 Nio/Cd Balanced Plug: 20 sks (4.8 bbls) of class "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 (7075'-6250' inside 2 7/8", 6.5# casing, no excess)
 - 9.2 SX Circulate Squeeze: 250 sks class "G", with 1/4 # per sk cello flake, 0.4% CD-32, 0.4% ASA-301 mixed at 15.8 ppg and 1.15 cuft/sk for a total of 51.2 bbl of slurry (550' inside 2 7/8", 6.5# casing, no excess and 550' in 9" borehole diameter annular section with 20% excess).
 - 9.3 Balanced Plug: 300 sks of Type III cement, with 1/4 # per sk cello flake and CaCl₂ as necessary, mixed at 14.8 ppg and 1.33 cuft/sk for a total of 71.1 bbl of slurry (609' inside 9" OH + 20% excess, and 200' inside 8-5/8" surface casing).
10. MIRU wireline. Run gauge ring for 2 7/8" OD, 6.5# to 7100'. POOH
11. Pu and RIH with CIBP for 2 7/8" OD, 6.5#/ft, J-55 casing. Set CIBP at 7050'. POOH
12. Pressure test casing and CIBP to 3,000 psi and hold for 15 minutes. Call engineering if test fails. RDMO wireline.
13. RIH with 1.66" OD tubing to CIBP at 7050'.
14. MIRU cementers.
15. Establish circulation and pump 20 sks (4.8 bbls) of class "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 (7050'-6250' inside 2 7/8", 6.5# casing, no excess)
16. PUH to 6000' and circulate clean. POOH LD 1.66" OD tubing.
17. MIRU wireline.
18. PU two 1-1/16" perf gun with 6 spf, 60 degree phasing, .37" EHD and 2.70" penetration. Shoot 2' of perfs at 4710' for a total of 12 holes. RDMO WL.
19. Establish circulation with fresh water and biocide and circulate until clean. If unable to establish circulation to surface with good rate, contact engineer to discuss potential of cutting the casing at 4710'.
20. MIRU Cementers. Precede cement with 20 bbl of SMS and a 10 bbl fresh water spacer immediately preceding cement.

21. Pump 250 sks class "G", with ¼ # per sk cello flake, 0.4% CD-32, 0.4% ASA-301 mixed at 15.8 ppg and 1.15 cuft/sk for a total of 51.2 bbl of slurry (550' inside 2 7/8", 6.5# casing, no excess and 550' in 9" borehole diameter annular section with 20% excess). Displace with wiper plug and 24 bbls of water to place top of cement at 4160'. Shut well in to prevent cement flow-back.
22. WOC 4 hours or recommended time by cementing services.
23. MIRU WL. Tag top of cement with sinker bar. If not above 4160' call Evans engineering to discuss options.
24. Shoot off casing at or below 1350'. RDMO WL.
25. Circulate water containing biocide down casing and up annulus through open bradenhead valve to remove any gas. Be sure to circulate until there is no pressure, gas, or condensate remaining.
26. ND BOP, ND TH.
27. Install BOP on casing head with 2 7/8" pipe rams. Install 3000 psi ball valves on both casing head outlets. Install a choke or choke manifold on one outlet.
28. Unland 2 7/8" casing and establish circulation.
29. MIRU Cementers. Pump 10 bbl SAPP with a minimum of 20 bbl fresh water spacer. Pump Balanced Plug down 2 7/8" casing: 300 sks of Type III cement, with ¼ # per sk cello flake and CaCl₂ a necessary, mixed at 14.8 ppg and 1.33 cuft/sk for a total of 71.1 bbl of slurry (609' inside 9" OH + 20% excess, and 200' inside 8-5/8" surface casing).
30. PUH to 500'. Circulate with water containing biocide to clean tubing until clear.
31. TOOH. WOC 4 hrs. Tag Cement with tbg. If cement top is at or above 640' proceed to next step, otherwise, call Evans engineering. TOOH and LD all tbg on trailer.
32. MIRU WL. RIH 8-5/8" CIBP to 150'. Set, PT to 1000 psi for 15 min. If tests, RDMO WL and WO rig.
33. 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.
34. Supervisor submit paper copies of all invoices, logs, and reports to Evans specialist.
35. Excavation crew to notify One Call to clear excavation area around wellhead and for flowlines.
36. Excavate hole around surface casing enough to allow welder to cut 8 5/8" casing minimum 5' below ground level.
37. Welder cut 8 5/8" casing minimum 5' below ground level.
38. MIRU ready cement mixer. Use 4500 psi compressive strength cement, (NO gravel) fill stubout.
39. Spot weld on steel marker plate. Marker should contain Well name, Well number, legal location (1/4 1/4 descriptor) and API number.
40. Obtain GPS location data as per COGCC Rule 215 and send to rscDJVendors@anadarko.com.
41. Properly abandon flowlines per Rule 1103.
42. Back fill hole with fill. Clean location, level.
43. Submit Form 6 to COGCC ensuring to provide 'As performed' WBD identifying operations completed. File electronic Form 42 once abandonment complete.