

## **PLUG AND ABANDON**

### **BW Musser #5**

1. Test deadman anchors and replace as needed.
2. MIRU workover rig, pipe racks, catwalk, & pump.
3. Set both flow back & 400 bbl upright tanks. Fill the 400 bbl tank with KCL sub water.
4. Lay flowlines from the WH to the flow back tank.
5. RIH w/ swab in 2-3/8" and test for productivity.
6. RIH w/ swab in 1.9" and test for productivity.
7. Assuming negative flow test results, blow down both the 2-3/8" & 1.9" to the flow back tank and pump 11 bbl tbq kill volume in the 2-3/8", and an 8 bbl tbq kill volume in the 1.9" tbq.
8. Dig an 8'x8'x6' pit to accommodate cement cleanup.
9. Contact BLM Little Snake Office with notice to P&A.
10. ND the wellhead and NU up a 7-1/16", 5M double gate BOP equipped with 2-3/8" pipe rams. Function-test both the blind and pipe rams. Hook up the flow lines to the BOP.
11. Remove and LD the tbq hanger, and POH SB the 2-3/8" tbq.
12. Change out the 2-3/8" pipe rams w/ 1.9" pipe rams in the top gate.
13. Remove and LD the tbq hanger, release seal assembly from permanent packer, and POH laying down the 1.9" tbq.
14. RU HES Wireline and round trip a junk basket & gauge ring to 3255'. Set a CIBP @ 3250'. Dump bail 7 sacks cement on top of CIBP.
15. Round trip a 6-1/8" bit & casing scraper to 2950', circulating clean.
16. MU a retrievable packer and TIH w/ 2-3/8" tbq. Set the packer @ 2900'.
17. Set the packer and pressure test the backside 2-3/8" x 7" annulus to 500 psi for 10 minutes. Mechanical Integrity Test requires no more than 10% psi loss in 10 minutes.
18. RIH w/ swab and test for productivity confirming first attempt.
19. Release packer and POH SB.
20. MU a CICR & TIH. Set retainer @ 2865'.
21. Rig up a cementer and establish a rate and pressure through the CICR. Sting out of the CICR and mix and spot 60 sacks of cement. Sting into the retainer and squeeze the perforations w/ 50 sacks below the CICR. Sting out, LD 2 joints and reverse out cement leaving a 50' cement plug on top of the retainer.
22. Pull and LD two more joints. Mix and circulate the hole full of 9ppg Poz/gel. 107 bbls will be required.
23. POH LD tbq.
24. Tie into the 7" x 10-3/4" annulus with the cementer and, assuming a bullheaded injection rate can be established, mix and pump 48 sacks (10% overage) of cement for a 187' surface plug
25. ND the BOP and remove the tubing spool. Cutoff the wellhead.
26. RU cementer, MU 1" tubing and mix & spot 46 sacks cement into 7" casing, leaving a 237' surface plug (per BLM COA). Top off the casing & the annulus as needed.
27. Install a regulation dry hole marker three feet below restored ground level. Note the GPS coordinates of the wellbore location for future reference.
28. Backfill around the wellhead.
29. Rig down and move off all rig and rental equipment.
30. The location will be reclaimed later according to the government stipulations.