Podtburg S #2 – P&A Procedure

1. Provide 48 hour MIRU notice to COGCC.
2. Prepare location for base beam type rig.
3. Put Baker on will-call for upcoming cement jobs.
4. Call foreman and/or field coordinator before rig up to remove any production equipment (remove plunger, wellhead automation, etc.).
5. Notify CDC of upcoming operations. CDC to be responsible for one-call and coordination of flowline abandonment and capping of well.
6. MIRU WO rig. Kill well using water with biocide. ND wellhead. NU BOP.
7. Unseat tubing landing joint and lay down.
8. PU and attempt to release packer, which is stuck in the hole at 7,132'. Attempt has previously been made and packer has been in hole since ~1987. There is also JIH at ~7,120'. If able to pull tubing string, proceed to step 9, if packer does not release, proceed to step 8.
9. TIH with jet cutter and cut 2-3/8" production tubing at +/- 7,100'. P&SB tubing.
10. MIRU Vaughn Energy Services (VES) to run a gyro survey in 4.5" casing. RIH to approx. 7,050' KB (50' above top of fish). RDMO VES. (Charge VES gyro survey to separate AFE# 2062513.PDE)
11. MIRU WL. PU and RIH with CIBP for 4.5", 11.6#. Set CIBP at +/- 7,050'. Dump bail 2 sx Glass G 15.8# cement with 2% CaCl on CIBP. Make multiple runs to get entire two sx, if necessary.
12. WOC to set overnight.
13. RIH to tag top of cement cap with 2-3/8" open ended workstring. Record depth in OpenWells. POOH.
14. Spear into and unland the 4.5" production casing from the casing hanger. Stack out casing and then check 4.5" production casing stretch and use measured stretch distance to estimate TOC for 4.5" production casing. (Calculated top of production casing cement is +/- 6,430' KB, NO CBL on file).
15. RIH with jet cutter and cut production casing 100' above free point. TOOH and lay down 1 jt of 4-1/2" production casing. If unable to pull production casing contact engineer/COGCC for plugging modifications. If necessary, repeat jet cutting production casing in 100' increments until 4.5" production casing can be TOOH and laid down).
16. Once successful cut is made. PU 1 jt and circulate drilling mud (9ppg minimum and treated with biocide) until returns are seen at surface (Esimated volume is +/- 800 bbls, which is 1-1/4 times the hole volume) to ensure gas is circulated out of hole.
17. TOOH and lay down 4.5" production casing.
18. PU 2-3/8" tubing and TIH, landing EOT 100' below 4.5" production casing stub.
19. MIRU Baker. Establish circulation pumping fresh water. Once circulation established with fresh water, pump 75 SX (15.6 bbls) Class G 15.8# cement with 2% CaCl, displace

with fresh water to ½ bbl short of estimated top of cement approx. 100' above casing stub (2-3/8" 4.7# tubing capacity 0.00387 bbl/ft).

20. POOH with 600' so EOT is +/-400' above top of cement plug. Reverse circulate with 45 bbls water or until returns are clean. (45 bbls assumes casing cut at 6,300' KB). P&SB entire workstring.
21. WOC to set overnight.
22. RIH to tag top of cement plug with 2-3/8" open ended workstring. Record depth in OpenWells. POOH. (cement top must be tagged at a minimum of 50' above cut 4.5" production casing stub). If cement coverage inadequate, contact engineering for plugging modifications.
23. If tagged cement depth is adequate, proceed.
24. POOH and land end of tubing at 4,430' KB. Establish circulation pumping fresh water. Once circulation established with fresh water, pump 20 bbls meta-silicate or seal bond followed by 425 SX (100 bbls) Class G 15.8# cement with 2% CaCl, displace with approx. 14 bbls fresh water to ½ bbl short of estimated top of cement at 3,770' KB (2-3/8" 4.7# tubing capacity 0.00387 bbl/ft. 14 bbls based on landing end of tubing at 4,430' KB)
25. POOH with 1,200' so EOT at 3,200' KB. Reverse circulate with 26 bbls water or until returns are clean. P&SB entire workstring.
26. WOC to set overnight.
27. RIH to tag top of cement plug with 2-3/8" open ended workstring. Record depth in OpenWells. POOH. (cement top must be tagged no deeper than 3,928'). If cement coverage inadequate, contact engineering for plugging modifications.
28. If tagged cement depth is adequate, proceed.
29. POOH and land end of tubing at 1,400' KB. Establish circulation pumping fresh water. Once circulation established with fresh water, pump 150 SX (34 bbls) Class G 15.8# cement with 2% CaCl, displace with approx. 3 bbls fresh water to estimated top of cement at 1,100' KB (2-3/8" 4.7# tubing capacity 0.00387 bbl/ft. 3 bbls based on landing end of tubing at 1,400' KB)
30. POOH with 700' so EOT at 400' KB. Reverse circulate with 3 bbls water or until returns are clean. P&SB entire workstring.
31. WOC to set overnight.
32. RIH to tag top of cement plug with 2-3/8" open ended workstring. Record depth in OpenWells. POOH. (cement top must be tagged no deeper than 1,100'). If cement coverage inadequate, contact engineering for plugging modifications.
33. If tagged cement depth is adequate, proceed.
34. POOH and land end of tubing at 450' KB. Establish circulation pumping fresh water. Once circulation established with fresh water, pump 200 SX (42 bbls) Class G 15.8# cement with 2% CaCl. (Estimated top of cement plug at 20' KB).
35. RDMO Baker. TOOH and LD 2-3/8" tubing. WOC to set overnight.

36. PU and TIH with 2-3/8” tubing open ended. Tag top of cement and record depth in OpenWells. TOOH with 2-3/8” tubing. **If cement top is not at surface, fill surface casing with 4,500 psi compressive strength redi-mix cement.
37. Cut surface casing off 5’ below ground level and weld plate on top with marker.
38. Properly abandon all flowlines per COGCC Rule 1103
39. Submit COGCC Form 6, providing “as plugged” wellbore diagram