



Proposed Procedure:

1. MIRU Service rig, spot all equipment, kill well
2. ND Production tree, NU BOP's, Pressure test BOP's to 300 psi low, 4,000 psi high
3. POOH 2-3/8" J-55 tbg while scanning/inspecting, leaving final 10-15 jts of tbg in hole for tail string
4. RIH w/ 4-1/2" 11.6# csg pkr, set @ 500' and pressure test production csg to confirm csg leak above packer
5. Leave well sit overnight to utilize gas pressure to test for a production casing leak below 500'
6. RIH with 4-1/2" TSBP and tail string using only YB tbg pulled from well. If necessary PUMU YB, WB, or new tbg
7. Set BP at +/-4,500' (TOC 3,340'), POOH SB tbg
8. If csg leak is above surface csg shoe (shoe at 3,766'):
 - a. Mechanically cut casing +/-20' below leak depth if necessary to allow un-landing csg slips
 - b. POOH LD damaged csg
 - c. RIH w/ overshot and LHWS and latch onto production csg
 - d. Manually backoff production casing with string shot appx 1+ jt below damaged csg
 - e. POOH with casing and lay down
 - f. RIH with new casing and screw back into existing casing, fully torque (+/- 2,650 ft-lbs)
 - g. Pull test +/-65k. Land in minimum tension (+/-55k)
 - h. Pressure test csg to 350 psi for 15 minutes, 1,000 psi for 15 minutes
9. If csg leak is below surface csg shoe (shoe at 3,766'):
 - a. RIH set RBP 100' below csg leak, dump bail sand on top of RBP
 - b. RIH w/ tbg to 50' below csg leak; establish circulation down production csg and up surface csg
 - c. Pump 50 sks cmt to balance from 50' below to 100' above csg leak inside/outside 4-1/2" 11.6# csg
 - d. PU tbg to 100' above csg leak and circulate hole clean
 - e. RIH w/ bit and drill out 150' cement plug from inside 4-1/2" csg
 - f. Pressure test csg to 350 psi for 30 minutes

- g. RIH to retrieve top RBP, washing sand and circulating hole clean prior to latching up
- 10. RIH and retrieve lower RBP; POOH entire string, visually inspect tbg and tally
- 11. RIH with production tubing while HYDROTESTING, make light tag on fill
 - a. Note – Run lower grade pipe on bottom of string. Clearly notate within daily operation activity details the makeup of the string (grade, color, depths)
- 12. POOH to land depth +/-11,268 (+/-97%). Pump tbg volume if tagged to clear tbg; Hydrotest hanger connection
- 13. RDMO Service Unit and cleanup location