

Objective:

Find well and prep to re-enter well. Drill out all plugs. Plug well again with improved plugging requirements.

Procedure:

1. Contractor to obtain Line locates for ground disturbance. Locate well or casing stump. Have surveyor gather an as built survey of well location for records. Refer to all COA's from COGCC approved Form 6.
2. Construct location and temporary access for the site.
3. Dig up stump of original surface casing. Cut off marker and prep for a slip on collar with pup joint to get surface flange to ground level. Install 8-5/8" x 11" 3K flange. Install small cellar if necessary.
4. Back fill area and prep for rig.
5. Submit Form 42 electronically to COGCC 48 hours prior to MIRU. Notify COGCC Inspector 24 hours prior to MIRU.
6. MIRU drilling rig and auxiliary equipment. Pre-mix mud tanks to 10.0 ppg MW.
7. Install 11" 5M BOP plus rotating head. Notify COGCC Inspector 24 hours prior to BOP test. Conduct 250 psi low / 5000 psi high pressure tests.
8. Pick up 7-7/8" rock bit, bit sub and DC. Drill out surface plug from surface to approximately 40'. Continue TIH to plug #2 at ~150'. Drill cement to 190'.
9. Pressure test surface casing to 200 psi low / 1000 psi high for 10 minutes each. If test fails, see steps 12-16. Prepare to run 7" FJ casing to 750' after drilling 75'-100' of OH plug. This will require discussion on next tool string. If surface casing pressure test is successful then ignore steps 14-16
10. Drill through surface casing shoe at 205', continue drilling cement to approximately 250'.
11. Circulate hole clean when surface plug is drilled out. TOH.
12. Pick up 7-7/8" rock bit, near bit stabilizer, motor, bit sub with float, one drill collar, stabilizer, one drill collar or HWDP, and stabilizer. TIH. Wash and ream to next expected plug at ~1450'. Circulate hole with clean mud. Discard old mud in waste tank. If surface casing pressure tested, go to step 16. If surface casing failed pressure test, follows steps 12-15.
13. Drill plug carefully with very little WOB (~1klbs) to avoid sidetracking. Time drill through 75'-100' of plug. Pay very close attention to any gas noticed in returns. Take returns through gas buster if hydrocarbons or pressure are present when plug is drilled. Do not go through choke manifold unless necessary to minimize strain on surface casing shoe. Notify local fire department if any flaring takes place. Once 100' of plug is drilled then condition hole and TOH.

14. Rig up casing running tools. Run 7" 26# P110HC R-3 ULTFJ casing and set at 750'. Cement with 100 sx SLB cement (assumes 50% excess, may need substantially more cement if hole appears more washed out). WOC 6 hrs prior to drilling out. If cement is not seen at surface a temp log or CBL will need to be run.
15. Pressure test casing to 1000 psi. ND BOP. Make up 7" 5M GE casing head. NU 7-1/16" BOPE.
16. Pick up 6-1/8" rock bit, 5-7/8" motor, bit sub with float, and 4-6 drill collars. TIH and tag plug.
17. Drill plug carefully with very little WOB (~1klbs) to avoid sidetracking. Time drill through plug. Expect bottom of plug at ~1650'-1700'. Take returns through gas buster if hydrocarbons or pressure are present when plug is drilled. Do not go through choke manifold unless necessary to minimize strain on surface casing shoe. Submit Form 42 flaring notice and notify local fire department if any flaring takes place.
18. Raise mud weight to 11.0 ppg to address possible gas and help with hole cleaning. Wash and ream in hole and circulate continuously with fresh mud. Discard the original well fluid in waste tank. Expect heavy flow of cuttings, slough, dehydrated mud, old cement, and oil/gas in returns. Pump sweeps and circulate as needed. Raise mud weight as needed to control sloughing and oil/gas flow. If bridge or obstruction is encountered, attempt to wash or otherwise remove with minimum rotation to avoid sidetracking out of old hole. Circulate through gas buster and control flare with mud weight. Avoid going on choke unless necessary to protect casing shoe.
19. Tag casing top at 7400'.
20. Condition mud as necessary until well bore is stable.
21. RU wireline. Run gyro tool to bottom. Gather surveys every 100' coming out of hole. TOH and lay down BHA. Check gyro tool to ensure all data recorded properly.
22. RIH with 4" drill pipe open-ended.
23. Contact COGCC field inspector 24hr prior to cementing. Rig up cement equipment and pump plugs as follows:
 - Plug 1: 7400' to 6900' (plug isolating Niobrara-Codell) 220 sx Class G "Nio" cement w/ silica flour, retarder, and additives as needed. Assume 7-7/8" hole size plus 50% excess.
 - Lay down drill pipe to 3200'. Confirm and document well is static prior to pumping Plug 2.
 - Plug 2: 3200' – 3000' (base of Upper Pierre) 125 sx Schlumberger Premium Gas Block cement. Assume 7-7/8" hole size plus 100% excess. If full returns not maintained while pumping cement, WOC six hours and tag plug.
 - Lay down drill pipe to 2050'. Confirm and document well is static prior to pumping plug 3.

- Plug 3: 2050' to 1450' (~100' below base of Fox Hills to 1450') 350 sx Class G cement, mixed at 15.8 ppg plus accelerator and additives as needed. Assume 7-7/8" hole size plus 100% excess. **WOC six hours and tag plug (required tag by COGCC).**
- Lay down drill pipe to 1200'. Confirm and document well is static prior to pumping plug 4.
- Plug 4: 1200' to 700' (66' below L-A base and 95' above U-A base) 220 sx Class G cement, mixed at 15.8 ppg plus accelerator and additives as needed. Assume 7-7/8" hole size plus 50% excess. **WOC six hrs and tag plug.**
- Lay down drill pipe to 500'. Confirm and document well is static prior to pumping plug 5.
- Plug 5: 500' to surface. Approximately 220 sx Class G cement, mixed at 15.8 ppg plus accelerator and additives as needed. Assume 7-7/8" hole size plus 50% excess. Adjust cement volume as necessary to circulate cement to surface. Pump cement until cement is seen at surface.

24. ND BOP. Ensure and document all casing and annular spaces are cemented to surface.

25. Rig down rig and all other auxiliary equipment. Move off location.

26. Excavate around wellhead. Cut off casing 4 ft below ground level. Inspect cement top with FLIR camera to ensure no evidence of gas. Save in wellfile.

27. Weld on metal plate with 1" weep hole and dry hole marker. Dry hole marker must include well name, API, QtrQtr STR, Lat/Long, and date.

28. Restore surface location and reclaim per arrangements with the surface developer.

29. Ensure all cement, wireline, and rig tickets are mailed or emailed to the Denver office for subsequent reporting.