

- 1 Call One-Call for utility locates as needed. Prepare location for drilling rig operations. Line location under rig and mud tanks.
- 2 Locate and expose 8 5/8" casing stub. Extend stub to surface and install 8 5/8" SOW x 11", 3m casing head with 3m ball valves in both outlets.
- 3 Provide notification of RU to COGCC as specified in approved Form 2.
- 4 MIRU workover rig. NU 11", 3000 psi BOP stack on casing head. PT BOP/csg head per approved Form 2. Function test BOPE. NU rotating head on BOP. Hook up return line to shale shaker on flat tank.
- 5 PU 7 7/8" mill tooth bit, necessary drill collars and drill pipe/work string (WS). Drill through existing cement plugs at surface (10 sk) and ~140' (15 sk) using fresh water with biocide. NOTE: Bottom of second cement plug is ~240'.
- 6 Once surface cement plugs are drilled, displace hole with drilling mud and continue going in hole washing down to TD at 8988'. Circulate and condition hole for logs. POOH and SB WS, LD drill collars.
- 7 Run logs as TBD by geology. At a minimum, a caliper and resistivity log will be needed to determine hole size and formation tops and base of Fox Hills for cement plug placement. All plug sizes and intervals may be changed based on log information.
- 8 RIH WS open ended to TD. Circulate and condition hole to prepare for re-plugging.
- 9 Run gyro survey from ~ 8900' to surface.
- 10 MIRU cementing services. Spot 90 sk cement plug consisting of 15.8 ppg, 1.38 cf/sk, Class G containing 20% silica, 0.4% CD-32 and 0.4% ASA-301. POOH to ~7250', circulate clean and WOC per cementing company recommendation. Plug size is based on assumed 10" hole with 20% excess cement covering 8988' up to 8800' across Lyons.
- 11 Tag top of plug at ~8800'. LD WS to place end of WS at 7250'. Spot 380 sk cement plug consisting of 15.8 ppg, 1.38 cf/sk, Class G containing 20% silica, 0.4% CD-32 and 0.4% ASA-301. POOH to ~6000', circulate clean and WOC per cementing company recommendation. Plug size is based on 10" hole from caliper with 20% excess cement covering 7250' up to 6450' across Codell and top of Niobrara.
- 12 Tag top of plug at ~6450'. LD WS to place end of WS at ~4200'. Spot 400 sk cement plug consisting of 15.8 ppg, 1.15 cf/sk, Class G containing 0.4% CD-32 and 0.4% ASA-301 with CaCl<sub>2</sub> as deemed necessary. POOH to ~3200', circulate clean and WOC per cementing company recommendation. Plug size is based on assumed 13" hole with 20% excess covering 4200' up to 3800' across top of Sussex.
- 13 Tag top of plug at ~3800'. LD WS to place end of WS at ~1000'. Spot 650 sk cement plug consisting of 14.0 ppg, 1.53 cf/sk, Type III containing CaCl<sub>2</sub> as deemed necessary. POOH and WOC per cementing company recommendation. Plug size is based on assumed 13" hole with 20% excess covering 1000' up to base of sfc casing at 190' and inside the sfc casing to 120' (across sfc casing shoe and base of Fox Hills). RD cementing services.
- 14 Tag top of plug at ~120'. POOH and LD WS.
- 15 RU wireline. Run and set CIBP in the 8 5/8", 24# sfc casing at ~100'. PT CIBP/sfc csg to 1000 psi for 15 min. Assuming the pressure test is successful, proceed. RD wireline.
- 16 RDMO workover rig.

- 17 Wellsite supervisor should turn all paper copies of cementing reports/invoices to Sabrina Frantz.  
NOTE: During the job, wellsite supervisor should instruct contractors to e-mail all logs, job reports/invoices to Sabrina Frantz.
- 18 Excavate hole around sfc casing of sufficient size to allow welder to cut off 8 5/8" sfc casing at least 5' BGL (depending on landowner requirements). Cut off sfc casing.
- 19 Fill sfc casing with 4500 psi compressive strength redi-mix cement (sand and cement only – no gravel).
- 20 Spot weld steel marker plate on top of sfc casing. NOTE: Marker shall be labeled with well name and number, legal location (1/4, 1/4 description) and API number.
- 21 Back fill hole with native material. Reclaim location to landowner specifications.
- 22 Submit Form 6 to COGCC. Provide "As Plugged" wellbore diagram identifying the specific plugging completed.