

HERGENREDER ELMER 1

- 1 Call One-Call for utility locates as needed. Prepare location for drilling rig operations. 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.
- 2 Provide notification of RU to COGCC as specified in approved Form 2.
- 3 MIRU drilling rig. NU 11" 3000 psi BOP stack on casing head. PT BOP/csg head per approved Form 2.
- 4 PU 7 7/8" mill tooth bit, necessary drill collars and drill pipe/work string. Drill through existing cement plugs at surface (10 sk) and 370' (20 sk) using fresh water with biocide. NOTE: Bottom of second cement plug is ~440'.
- 5 Once surface cement plugs are drilled, displace hole with drilling mud and continue going in hole reaming each joint down to the cement plug at ~7400'. Tag plug at ~7400', do not drill out.
- 6 Assuming the plug covers the J Sand, continue. If the plug does not cover the J Sand to 7400', further plans will be made at this time.
- 7 Circulate and condition hole to prepare for re-plugging.
- 8 Run gyro survey from ~ 7300' to surface.
- 9 TOOH and lay down drill collars and bit.
- 10 TIH open-ended with drill pipe/work string to ~7250'.
- 11 MIRU cementing services. Spot 170 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 ~6700', 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 6900' across Codell.
- 12 Tag top of plug at ~6900'. Spot 240 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 6900' up to 6400' across top of Niobrara.
- 13 Tag top of plug at ~6400'. PU drill pipe/work string to ~4000'. 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 CaCl₂ as deemed necessary. POOH to ~3200', circulate clean and WOC per cementing company recommendation. Plug size is based on 13" hole from caliper with 20% excess covering 4000' up to 3600' across top of Sussex.
- 14 Tag top of plug at ~3600'. PU drill pipe/work string to 900'. Spot 540 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 CaCl₂ as deemed necessary. POOH and WOC per cementing company recommendation. Plug size is based on 13" hole from caliper with 20% excess covering 900' up to base of sfc casing at 408' and inside the sfc casing to 200' (across sfc casing shoe and base of Fox Hills). RD cementing services.
- 15 Tag top of plug at ~200'. POOH and LD 100' of drill pipe/work string.
- 16 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.
- 17 RDMO drilling rig.

- 18 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.
- 19 Excavate hole around sfc casing of sufficient size to allow welder to cut off 8 5/8" sfc casing at least 5' BGL. Cut off sfc casing.
- 20 Fill sfc casing with 4500 psi compressive strength redi-mix cement (sand and cement only – no gravel).
- 21 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.
- 22 Back fill hole with native material. Reclaim location to landowner specifications.
- 23 Submit Form 6 to COGCC. Provide "As Plugged" wellbore diagram identifying the specific plugging completed.