

## DEEPENING & COMPLETION PROCEDURE

**WELL NAME:** Aufrecht N02-10 **DATE:** 6/17/2014  
**LOCATION:**  
Qtr/Qtr: NWNE Section: 2 Township: 5N Range: 67W  
**COUNTY:** Weld **STATE:** Colorado

**OBJECTIVE:** Codell Refrac/Niobrara Recomplete

**PRODUCTION STATUS:** May, 2014 production rate: 14.1 MCFD & 1.8 BOPD

### PROCEDURE:

#### Codell/Niobrara combo procedures

#### 4 1/2 csg frac (**Codell Refrac/Niobrara Recomplete**)

- 1) MIRU Workover Rig. Top kill well in 10 bbl increments w/ clean 2% KCl.
- 2) ND Wellhead, NU BOPE. POOH w/production tubing.
- 3) RIH w/bit, scraper & 2-3/8" tbg. Tag TD & clean out to PBTD if necessary. POOH.
- 4) RIH w/ RBP @ +/- 6793' (**100 feet above top Niobrara perf**)  
Pressure test csg to 5000 psi. (**only if csg is 4 1/2", 11.60#, and is not over 7 years old**)
- 5) POOH with RBP
- 6) No Codell re-perfing will be done. Run a pump test with the rig pump to ensure existing perms are open.
- 7) Re-frac Codell down csg past open Niobrara perms w/ 135,000 gals of gel containing 245,000# 20/40 sand.
- 8) RIH w/ composite flow through plug and set @ 7074'. (**40' below bottom Niobrara perf**)
- 9) Perf Niobrara w/ 3 1/8" gun w/ 2 spf, 0.73" holes, 120 degree phasing, 20 gram charges, (6.73" penetration) from 6893' - 6905' (24 holes) and 7022' - 7034' (24 holes). Perf depths based on Dual Induction Log dated 2/10/200
- 10) Frac Niobrara down csg w/ 179,000 gal Vistar/Silverstim/Slickwater fluid & 250,000# 30/50 sand.
- 11) Flow back well overnight on 20/64" choke - WELL SHOULD BE FLOWED BACK @ +/- 150 BBLS/HOUR.
- 12) Put well to production.
- 13) Commingle zones in 2 months.