SWABBCO
WELL SERVICING | COMPLETION

Recommended Procedure *Plug and Abandonment*

Operator:	TOP Operating Company		
Well name:	Counter #3		
Legal:	SESE, Section: 30, Township: 2 North, Range: 66 West, 6th PM		
GPS:	40.11208, -104.81303		
Location:	Weld County, Colorado		
API:	05-123-10297		
Surface:	8-5/8" 24# at 545'	**Hole size:** 12-1/4"	**TOC:** Surface
Production:	4-1/2" 10.5# at 4,710'	**Hole size:** 7-7/8"	**TOC:** 3,524' (Calculated)
Perforations:	4,578' – 4,672' (Sussex)		
Water Aquifer:	414' – 677' (Laramie - Fox Hills)		
TD:	4,750'		

*** Procedure based off COGCC well file, NOT an approved procedure ***

1. Ensure that COGCC has been notified 48 hours prior to rig up via electronic form 42
2. Conduct pre-job safety meeting and complete daily JSA
3. Prior to MIRU, record initial shut-in pressures on tubing, production casing, and surface casing
4. Dig out around wellhead and check surface casing for pressure and record
    a. If pressure is present call Paul Herring #720-663-1698
    b. Report Bradenhead test to COGCC
5. Blow down well/kill if necessary
6. MIRU P&A equipment, TOH and LD rods if present, NDWH, NUBOP
7. TOH and tally any existing tubing to derrick, LD BHA
    a. Inspect tubing for holes/damaged threads/collars, LD any bad tubing
8. RU wireline, gauge ring/junk basket for 4-1/2" 10.5#, TIH to 4,578', TOH
9. PU 4-1/2" 10.5# CIBP, TIH and set CIBP at 4,528' (50' above Sussex perforations), TOH
10. TIH and CDB 2 sxs of 15.8# class G neat 1.15 cu.ft./sack yield cement on top of CIBP
    a. 2 sxs is 25' in 4-1/2" 10.5# casing, TOC: 4,503'
        i. If wireline is not used, increase volume to 10 sxs (128' in 4-1/2" 10.5# casing)
11. Load and pressure test casing to 500 psi for 30 minutes
    a. If test fails call Paul Herring and Aron Rascon for orders
    b. **Note:** If casing/CIBP/CICR pressure tests fail or unable to establish injection/circulation additional steps/services required by the COGCC are not included in this bid and will be billed per our 2020 Time and Material Price Schedule.
12. TIH and run CBL from 4,490' to surface, record TOC, submit to COGCC
    a. COGCC engineer may require an additional plug if TOC is too low
13. TIH and perforate casing at 2,500', TOH, establish injection rate into perfs/circulation via surface casing
    a. If unable to establish injection rate into perforations or circulation to surface via perforations call Paul Herring and Aron Rascon for orders
    b. If able to establish circulation, perforate casing at 727' (50' below Laramie Fox Hills freshwater aquifer) and RD wireline
14. PU 4-1/2" 10.5# CICR, TIH and set at 2,400', establish injection rate into CICR
15. Pump 55 sxs of 15.8# class G neat 1.15 cu.ft./sack yield cement, 45 sxs under and 10 sxs on top
    a. 8 sxs is 102' in 4-1/2" 10.5# casing covering from 2,400' to perfs at 2,500'
    b. 37 sxs is 186' in 4-1/2" x 7-7/8" annulus, covering from perfs at 2,500' to 2,314'
    c. 10 sxs is 128' in 4-1/2" 10.5# casing, TOC: 2,272'

16. TOH and LD tubing, NDBOP, NUWH to prepare for circulation of cement via perforations at 727’
    a. Ensure at least 300 sxs of class G neat cement on location in case cement doesn’t circulate with proposed 200 sxs volume
17. Circulate 200 sxs of 15.8# class G neat 1.15 cu.ft./sack yield cement until good returns at surface
    a. Verify that returns at surface are proper weight cement and not contaminated
18. RDMO, dig out and cut off wellhead 3’ – 6’ below ground level, verify cement at surface,
19. Top off if necessary, weld info plate onto casing
20. Backfill pit, clean location, P&A complete