

CWC PETRO LLC
Raven 3-9
Plug and Abandonment Procedure
October 28, 2022

LOCATION: NESE Sec 3, T3S, R46W
1,980' FSL & 760' FEL
Yuma County, CO

API: 05-125-10831

TD: 2,375' PBSD: 2,334' (est) KB: 4,061' GL: 4,056'

PURPOSE of WORK: Pull rods and tubing. Plug and abandon well.

CASING:

7", 20#, J-55 @ 282' in 9 7/8" hole
Cemented with 75 sxs "A" + 3% CaCl + 2% gel + 1/4 #/sk Flakes (15.8 bbls)
15.6 ppg Yield: 1.18 cuft/sk
Circulated 2.0 bbls to surface
Allied Cementers

4 1/2", 10.5#, J-55 @ 2,356' RKB in 6 1/4" hole
Lead: 85 sxs "Lite" cement + 1/4 #/sk Flakes
12.2 ppg; Yield 1.81 (27.4 bbls)
Tail: 75 sx ASC + 2% Gel + 1/4 #/sk Flakes
14.5 ppg; Yield: 1.57 (21.0 bbls)
No cement circulated to Surface
Allied Cementers

FORMATION TOPS:

Pierre Shale	85'
Sharon Springs Member	2,069'
Niobrara	
Top Beecher Island	2,181'
Base Beecher Island	2,226'

PROCEDURE:

1. Find and test rig anchors. If necessary, set temporary anchors. Spot in tubing float to handle 67 joints 2-3/8" 4.7# N80 8RD EUE tubing.
2. MIRU workover rig. Install wellhead and BOPE
3. Bullhead +/- 20 BBLs freshwater
4. POOH standing back tubing and tallying tubing. LD SN and mud anchor.
5. MU CIBP for 4.5" 10.5# casing and TIH on tubing to set CIBP @ +/- 2,133'. Set CIBP within 50' of top perforation at 2,183'.

6. MU pump in sub. Load hole with freshwater and establish circulation.
7. Mix and pump 25 sxs class A cement (1.18 ft³/sx, 29.56 ft³ slurry volume). Spot cement from CIBP at +/- 2,133 up to +/-1,803'.
8. POOH laying down tubing up to 1,600'. Reverse circulate until returns are clean of cement.
9. POOH laying down tubing up to 332'. Load hole with freshwater and establish circulation.
10. Mix and pump 25 sxs class A cement (1.18 ft³/sx, 29.56 ft³ slurry volume). Spot cement from +332' up to surface
11. POOH laying down remaining tubing.
12. Dig up wellhead and cut off 4' below surface. Top off production casing as necessary with cement. Weld plate over casing stub. Plate to have well name, location, and API number.
13. Re-claim surface per lease agreement and state regulations.