

**Porter 1**  
**40.381317 / -104.159242**  
**05-123-05170**

**Porter 1 Procedure**

1. MIRU workover rig and support equipment.
2. Check and record casing, tubing, and bradenhead pressures. If there is pressure on the BH, contact engineer. Hang well off.
3. RU Pumps and lines and pressure test to 2,000 psi.
4. Blow down tubing pressure.
5. Un hang rods, unseat pump (check tubing for vacuum), and LD polish rods and rod subs.
6. TOOH and LD rods as required and LD pump.
7. Control casing pressure with fresh water.
8. TOOH and LD tubing if possible.

**Run camera downhole and/or visually inspect at surface to determine how 4-1/2" casing was landed. Run CBL in the hole for confirmation of isolation on the backside. Make attempt to pull 4-1/2" from hole. Procedure assumes 4-1/2" casing is fully isolated and permanently landed in the well. Contact engineer for updated procedure once camera and CBL have been run.**

9. Unscrew cap at surface and NU 5K BOP to 8-5/8" casing. Test BOP.
10. PU and RIH with 6-1/4" tricone bit, 10 3-1/2" drill collars, and 2-7/8", 6.5#, L80, EUE workstring.
11. Drill out existing plug at 1430'. If pressure is encountered below plug, circulate hole with mud or kill fluid until well is dead or blown down.
12. POOH and LD 6-1/4" tricone bit.
13. PU and RIH with mule shoe and 2-7/8" L80 tubing down to top of production casing stub (~5700'). Tag and record depth of stub.

**Procedure assumes Stub Tag Depth at 5700', adjust first plug depths accordingly**

14. RU cement crew, pressure test lines to 4,500 psi, and spot plug from 5700'-5400' with 15.8 ppg (1.15 cuft/sk) Class G neat cement (100 sks) to cover the casing stub.
  - **FROM THIS POINT MOVING FORWARD:** Must wait a sufficient time on all subsequent plugs to confirm static conditions. If at any time after placing this plug there is evidence of pressure or of fluid migration, contact engineer before continuing operations.
15. POOH and spot plug from 3000'-2815' with 15.8 ppg (1.15 cuft/sk) Class G neat cement (60 sks).
  - **IF CIRCULATION IS NOT MAINTAINED WHILE PUMPING PLUG:**
    - i. POOH to surface casing. Wait 4 hours and tag TOC. Record tag depth. If tag is deeper than 2900', contact engineer.
16. POOH and spot plug from 1468'-893' with 15.8 ppg (1.15 cuft/sk) Class G neat cement (60 sks) to cover the Fox Hills formation and base of the 4-1/2" casing.
17. POOH to surface casing. Wait 4 hours and tag TOC. Record tag depth. If tag is deeper than 893', contact engineer.
18. POOH and spot plug from 893' to surface with 15.8 ppg (1.15 cuft/sk) Class G neat cement (68 sks).
  - **IF CEMENT DOES NOT RETURN TO SURFACE:**
    - i. POOH. Wait 4 hours and tag TOC. Record tag depth. If tag is deeper than 451', contact engineer.
    - ii. Pump 15.8 ppg (1.15 cuft/sk) Class G neat cement at tag depth to surface.
19. RDMO. Top off cement after rig has moved, if necessary.
20. After surface plug has set, cut casing to 5' below ground level and weld on a plate to seal the well.

21. Inscribe the well's legal location, well name and number, and API number on the plate as shown:

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22. Photograph welded name plate and conduct bubble test before proceeding.

23. After Bubble Test is successfully performed, backfill hole and reclaim surface to original conditions.

24. Cover up the well and remediate the disturbed area.

**Porter 1 Cement Plug Table**

CEMENT PLUG TABLE									
Plug Number	Plug Status	Formation	Plug Bottom Depth	Plug Top Depth	Cement Class	Yield (ft <sup>3</sup> /sk)	Number of Sacks	Must Be Tagged?	Maximum Tag Depth
1	Existing	D&J Sand	6402'	6360'	Unknown	Unknown	5	No	N/A
2	New	Niobrara	5700'	5400'	G	1.15	100	No	N/A
3	New	Intermediate	3000'	2815'	G	1.15	60	Possibly	2900'
4	New	Fox Hills	1468'	893'	G	1.15	60	Yes	893'
5	New	Surface	893'	Surface	G	1.15	68	Yes	451'
<b>TOTAL NEW SKS OF CEMENT REQUIRED:</b>							<b>288</b>		