

State 1
40.915661 / -104.218139
05-123-07866

State 1 Procedure

1. Survey and locate plugged wellbore. Set a stake and record as-drilled GPS coordinates.
2. Excavate around wellbore to expose the top of the surface casing.
3. Cut existing cap off wellbore. Weld a slip collar to 8-5/8" casing and necessary length of casing to reach ground level. Weld another 8-5/8" slip collar.
4. MIRU workover rig.
5. Install wellhead and BOP. Test BOP.
6. PU and RIH with 6-1/4" tricone bit, 10 3-1/2" drill collars, and 2-7/8", 6.5#, L80, EUE workstring.
7. Drill out 1st surface cement plug and circulate hole clean.
8. Continue drilling or RIH to top of 2nd surface casing plug. Record depth of plug.
9. Pressure test surface casing to 250 psi. If surface casing fails pressure test, contact engineer and hunt holes.
10. After pressure test of surface casing, drill out surface casing plug. If pressure is encountered below surface casing plug, circulate hole with mud or kill fluid until well is dead or blown down.
11. Continue RIH down to the 3rd plug (estimated TOC ~900'). Record Depth.
12. **SLOWLY** Drill Out plug, continue down to 1100'.
13. POOH and LD 6-1/4" tricone bit.
14. PU and RIH with mule shoe and 2-7/8" L80 tubing down to top of production casing stub (~2030'). Tag and record depth of stub.

Procedure assumes Stub Tag Depth at 2030', adjust first plug depths accordingly

15. RU cement crew, pressure test lines to 4,500 psi, and spot plug from 2030'-1800' with 15.8 ppg (1.15 cuft/sk) Class G neat cement (75 sks) to cover the casing stub.
 - **FROM THIS POINT MOVING FORWARD:** Circulate out all hydrocarbons from well and clean wellbore. 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, fluid migration or lost circulation while pumping cement, contact engineer before continuing operations.
 - **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 1800', contact engineer.
16. POOH and spot plug from 1166'-1016' with 15.8 ppg (1.15 cuft/sk) Class G neat cement (50 sks) to cover the Fox Hills formation.
17. POOH to surface casing. Wait 4 hours and tag TOC. Record tag depth. If tag is deeper than 1016', contact engineer.
18. POOH and spot plug from 650' to surface with 15.8 ppg (1.15 cuft/sk) Class G neat cement (210 sks).
 - **IF CEMENT DOES NOT RETURN TO SURFACE:**
 - i. POOH. Wait 4 hours and tag TOC. Record tag depth. If tag is deeper than 89', 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 conduct bubble test before proceeding.
21. After Bubble Test is successfully performed, weld on a plate to seal the well.
22. Inscribe the well's legal location, well name and number, and API number on the plate as shown:

Bison IV Operating
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660' FSL, 660' FWL, SWSW Sec 16, T11N, R61W
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23. Photograph welded name plate and send to engineer.
24. Backfill hole and reclaim surface to original conditions.
25. Cover up the well and remediate the disturbed area.

State 1 Cement Plug Table

CEMENT PLUG TABLE									
Plug Number	Plug Status	Formation	Plug Bottom Depth	Plug Top Depth	Cement Class	Yield (ft ³ /sk)	Number of Sacks	Must Be Tagged?	Maximum Tag Depth
1	Existing	D Sand	7715'	7675'	Unknown	Unknown	5	No	N/A
2	New	Niobrara	2030'	1800'	G	1.15	75	Possibly	1800'
3	New	Fox Hills	1166'	1016'	G	1.15	50	Yes	1016'
4	New	Surface	650'	Surface	G	1.15	210	Possibly	89'
TOTAL NEW SKS OF CEMENT REQUIRED:							335		