

Felts 1
40.402947 / -104.164083
05-123-11857

Felts 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. POOH and LD 6-1/4" tricone bit.
12. PU and RIH with mule shoe and 2-7/8" L80 tubing to tag top of 3rd cement plug (~5847'). Record tag depth. If tag is deeper than 5847', contact engineer.

Procedure assumes Tag Depth at 5847', adjust first plug depths/volume accordingly

13. RU cement crew, pressure test lines to 4,500 psi, and spot plug from 5847'-5742' with 15.8 ppg (1.15 cuft/sk) Class G neat cement (35 sks) to provide additional isolation over the Niobrara formation.
 - **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.
 - **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 5742', contact engineer.
14. POOH and spot plug from 1564'-1464' with 15.8 ppg (1.15 cuft/sk) Class G neat cement (32 sks) to cover the Fox Hills formation.
15. POOH to surface casing. Wait 4 hours and tag TOC. Record tag depth. If tag is deeper than 1464', contact engineer.
16. POOH and spot plug from 358' to surface with 15.8 ppg (1.15 cuft/sk) Class G neat cement (112 sks).
 - **IF CEMENT DOES NOT RETURN TO SURFACE:**
 - i. POOH. Wait 4 hours and tag TOC. Record tag depth. If tag is deeper than 258', contact engineer.
 - ii. Pump 15.8 ppg (1.15 cuft/sk) Class G neat cement at tag depth to surface.
17. RDMO. Top off cement after rig has moved, if necessary.
18. After surface plug has set, cut casing to 5' below ground level and weld on a plate to seal the well.
19. 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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2040' FNL, 600' FWL, SWNW Sec 13, T5N, R61W
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20. Photograph welded name plate and conduct bubble test before proceeding.

- 21. After Bubble Test is successfully performed, backfill hole and reclaim surface to original conditions.
- 22. Cover up the well and remediate the disturbed area.

Felts 1 Cement Plug Table

CEMENT PLUG TABLE									
Plug Number	Plug Status	Formation	Plug Bottom Depth	Plug Top Depth	Cement Class	Yield (ft³/sk)	Number of Sacks	Must Be Tagged?	Maximum Tag Depth
1	Existing	D Sand	6642'	6512'	Unknown	Unknown	35	No	N/A
2	Existing	Niobrara	5977'	5847'	Unknown	Unknown	35	Yes	5847'
3	New	Niobrara	5847'	5742'	G	1.15	100	Possibly	5742'
4	New	Fox Hills	1564'	1464'	G	1.15	32	Yes	1464'
5	New	Surface	358'	Surface	G	1.15	180	Possibly	258'
TOTAL NEW SKS OF CEMENT REQUIRED:							312		