

**Objective:**

Set CIBP above J Sand perms. Set CIBP above Niobrara perms. Pump internal cement plug across Sussex/Shannon. Circulate cement from Upper Pierre base to surface.

**Procedure:**

1. Submit electronic Form 42 to COGGC 48 hours prior to performing Form 17 Bradenhead Test.
2. Perform Form 17 Bradenhead Test and sample for gas, water, and oil per COGCC Regulation (test performed 10/25/2016 COGCC DOC# 401138521).
3. Submit electronic Form 42 to COGGC 48 hours prior to MIRU.
4. Submit form for Ground Disturbance Permit. Get One Call.
5. Notify Automation and Production Department.
6. RU Slick line, pull plunger and bumper spring.
7. POOH. Pick up gyro tool and RIH to seat nipple depth at ~8000'.
8. Record station data.
9. Pull up hole to 7900'. Record station data.
10. Pull up hole and record data every 100' to surface.
11. POOH. Lay down gyro tool.
12. Hold a pre-job safety meeting. Discuss all aspects of the procedure with any involved personnel. Identify and address any safety concerns before the job begins.
13. MIRU pulling unit. Kill well with treated fresh water.
14. ND wellhead, NU BOP.
15. Un-land Tubing. RIH and Tag.
16. POOH with tubing.
17. RIH with tubing and set CIBP @ 7950' (60' above top J Sand perforation). Ensure that CIBP is set in the middle of the joint of casing.
18. Pump 20 sx (~4 bbl) Class G cement on top of CIBP from ~7686' to 7950'.
19. POOH with tubing. PU 10 jts. Reverse circulate to clear tubing.
20. RIH with tubing and set CIBP @ 7270' (68' above top Niobrara perforation). Ensure that CIBP is set in the middle of the joint of casing and pressure test plug to 500 psi. Hold pressure for 15 minutes. Chart pressure on 1000 psi pressure chart.
21. Pump 40 sx (~8 bbl) Class G cement on top of CIBP from ~6743' to 7270'.
22. POOH with tubing. PU 30 jts. Reverse circulate to clear tubing.
23. RIH with tubing and set CIBP @ 5250' (235' below Shannon base). Ensure that CIBP is set in the middle of the joint of casing and pressure test plug to 500 psi. Hold pressure for 15 minutes. Chart pressure on 1000 psi pressure chart.
24. Pump 100 sx (~20 bbl) Class G cement on top of CIBP from ~3923' to 5250'.
25. POOH with tubing. PU 50 jts. Reverse circulate to clear tubing.

26. RIH with wireline and set CIBP @ 1410' (118' below Upper Pierre base). Ensure that CIBP is set in the middle of the joint of casing and pressure test plug to 500 psi. Hold pressure for 15 minutes. Chart pressure on 1000 psi pressure chart.
27. POOH with wireline.
28. RIH with wireline and shoot squeeze holes @ 1400'. Circulate out bradenhead with bradenhead valve open to a tank. If unable to establish injection, call Production Engineer @ 719-859-4942.
29. POOH with wireline.
30. RIH with wireline and set CICR @ 1350'.
31. POOH with wireline.
32. RIH with tubing. Check circulation through stinger and sting in CICR.
33. Attempt to establish injection. If unable to establish injection, call Production Engineer for path forward.
34. Circulate bottoms up. Circulation volume is approximately 80 bbls.
35. Pump 340 sx (~70 bbl) Class G Cement circulated to surface.
36. Sting out of cement retainer.
37. TOOH. Lay down stinger.
38. RBIH with tubing open ended.
39. Pump 120 sx (~25 bbl) Class G cement from CICR to surface.
40. POOH with tubing. Lay down tubing.
41. Top off both casing and annulus if necessary.
42. ND BOP, RDMO pulling unit.
43. Per ground disturbance procedure/policy, excavate around wellhead. Notify Environmental Department for surface review and inspection while digging.
44. Cut off casing 4' below ground level.
45. Weld on metal plate and dry hole marker.
46. Contact surveyor to acquire as-built surface location.
47. Notify Integrity Department to properly abandon flowlines as per Rule 1103. File electronic Form 42 once abandonment is complete.
48. Restore surface location.
49. Ensure all cement tickets are emailed to the Denver office for subsequent reporting. Emails shall be sent to Production Engineer, Workover Coordinator, and Production Technician.