

PLUG and ABANDONMENT PROCEDURE

EVERIST 14-10

Step Description of Work

1. Provide 48 hour notice to COGCC prior to rig up per request on approved Form 6 (e.g. call field coordinator, submit Form 42, etc.). Notify Automation Removal Group at least 24 hours prior to rig move. Request they catch and remove plunger, isolate production equipment and remove any automation prior to rig MIRU.
2. Arrange for 63 bbls of 9.0 mud to be used prior to the stub plug.
3. MIRU slickline. Pull bumper spring and tag bottom. Enter tagged depth into Open wells. Run pressure bomb and obtain pressure gradient survey from surface to 7504' (halfway between the Codell perfs) making gradient stops every 1000'. Forward pressure bomb results to Evans Engineering. Note: Do not run the BHP Survey after blowing down or killing the well with fluid. RD slickline.
4. Prepare location for base beam equipped rig. Install perimeter fence as needed.
5. Check and record Bradenhead pressure. If Bradenhead valve is not accessible, re-plumb so that valve is above GL. The last Form 17 test on 6/18/2012 recorded an initial Bradenhead pressure of 227 psi and dropping to 115 psi after 30 minutes, and no liquids.
6. Blow-down bradenhead and re-check pressure the next day. Repeat until pressure stays at 0 psi. Contact Evans Engineering if pressure does not report at 0 psi the next day.
7. MIRU WO rig. Kill well as necessary using clean fresh water with biocide. ND WH. NU BOP. Unseat landing joint, and LD.
8. TOOH and SB 7140' 2-3/8" tubing.
9. RU WL. PU gauge ring and RIH to 7170' for 4-1/2" 11.6 lb/ft I-80 casing (spud date = 9/12/2008). POOH and LD gauge ring.
10. With WL, set CIBP at 7140' (collars are located at 7116' and 7158') to abandon the Niobrara and Codell perfs. RD WL.
11. TIH with 2-3/8" tubing to 7140' while hydrotesting to 3000 psi. Circulate gas out of the hole and pressure test CIBP to 1000 psi for 15 minutes. **Monitor bradenhead pressure during test. Contact Evans Engineering if the bradenhead pressure is affected by the casing test.**
12. RU cementers. **Pump Niobrara plug:** 25 sxs (38 cf) Thermal 35 +0.5% CFR-2+0.25% FMC, mixed at 15.6 ppg & 1.51 cf/sk. The plug will cover 7140' to 6700'. Volume is based on 440' inside 4-1/2" production casing with no excess.
13. Slowly pull out of the cement and PUH to 6500'. Reverse circulate tubing clean to ensure no cement is left in the tubing. PUH to 4500'.
14. RU Cementers. **Pump Sussex balanced plug:** 50 sxs (57 cf) 0:1:0 'G'+0.5% CFR-2+0.2% FMC+0.5% LWA, mixed at 15.8 ppg & 1.15 cf/sk. The plug will cover 4500' - 3846'. Volume is based on 654' in 4-1/2" production casing with no excess. RD cementers.
15. Slowly pull out of the cement and PUH to 3600'. Reverse circulate tubing clean to ensure no cement is left in the tubing. PUH to 3500' and WOC.
16. WOC per cement company recommendation. Tag cement. TOC needs to be at or above 3955' (200' above the Sussex TOP located at 4155'). TOOH and SB 1020' 2-3/8" tubing.
17. RU WL. RIH and cut casing at 920'. RD WL.
18. Circulate with 9.0 ppg minimum mud to remove any gas.

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19. Un-land casing. ND BOP and tubing hanger. Install BOP on casing head with 4-1/2" pipe rams.
20. TOOH and LD 920' of 4-1/2" casing. Remove 4-1/2" pipe rams and install 2-3/8" pipe rams.
21. RIH with 2-3/8" tubing to 1020'.
22. Establish circulation with 9.0 ppg minimum mud and get bottoms up. NOTE: Due to history of bradenhead pressure, it is very important to get all gas out of the hole prior to cementing.
23. RU Cementers. Precede cement with 10 bbl (min) SAPP followed by a 20 bbl fresh water spacer.
Pump Stub Plug: 110 sxs (147 cf) Type III+0.3% CFL-3+0.3% CFR-2+0.25 lb/sk Polyflake, mixed at 14.8 ppg & 1.33 cf/sk. (100' in 4-1/2" production casing with no excess, 105' in 8.25" OH from caliper with 40% excess, 233' in 8-5/8" surface casing with no excess). The plug will cover 1020' - 582'. RD cementers.
24. Slowly pull out of the cement and PUH to 400'. Reverse circulate tubing clean using fresh water treated with biocide. PUH to 300' and WOC.
25. WOC per cement company recommendation. Tag cement. Cement top needs to be at or above 715' (100' above the surface casing shoe located at 815'). TOOH.
26. MIRU WL. RIH 8-5/8" CIBP to 80'. Set and pressure test to 1000 psi for 15 minutes. RDMO WL and WO rig.
27. Instruct cementing and wireline contractors to e-mail copies of all job logs/job summaries to rscDJVendors@anadarko.com within 24 hours of completion of the job.
28. Supervisor submit paper copies of all invoices, logs, and reports to Evans Engineering Specialist.
29. Excavation crew to notify One Call to clear excavation area around wellhead and for flow lines.
30. Excavate hole around surface casing enough to allow welder to cut casing a minimum 5' below ground level.
31. Welder cut casing minimum 5' below ground level.
32. Fill casing to surface using 4500 psi compressive strength cement (NO gravel).
33. Spot weld on steel marker plate. Marker should contain Well name, Well number, legal location (1/4 1/4 descriptor) and API number.
34. Obtain GPS location data as per COGCC Rule 215 and send to rscDJVendors@anadarko.com.
35. Properly abandon flow lines per Rule 1103. File electronic Form 42 once abandonment is complete.
36. Back fill hole with fill. Clean location, and level.
37. Submit Form 6 to COGCC ensuring to provide 'As performed' WBD identifying operations completed.