



Engineer: Kevin Kuzio

Date: 10/29/2015

## **PLUG AND ABANDONMENT PROCEDURE**

**Sarchet 20-1, API 05-123-14953**

### **Steps**

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.). Call 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. MIRU slickline services. Pull bumper spring and tag bottom. RDMO slickline services.
3. Prepare location for base beam equipped rig. Install perimeter fence as needed.
4. Check and record bradenhead pressure. If bradenhead valve is not accessible, re-plumb so that valve is above GL.
5. The last Form 17 test on 3/16/10 recorded bradenhead pressure of 0 psi.
6. MIRU, kill as necessary using biocide treated water. NDWH. NUBOP. Unseat landing jt, LD.
7. Notify cementers to be on call. Provide volumes listed below:
  - 6.1 Niobrara plug: **20 sx** (30 cu-ft) Thermal 35 w/ 0.5% CFR-2 and 0.25% FMC, mixed at 15.6 ppg and 1.51 cu-ft/sk yield. Cement volume based on 580' in 3 1/2" casing.
  - 6.2 Sussex squeeze: **310 sx** (368 cu-ft) 0:1:0 'G' w/ 0.25 pps cello flake, 0.5% CFR-2, 0.2% FMC, 0.5% LWA, mixed at 15.8 ppg and 1.15 cu-ft/sk yield. Cement volume based on 510' in 3 1/2" casing and 510' in a 10-1/2" OH with 20% excess. Caliper on file.
  - 6.3 Foxhills plug: **510 sx** (678 cu-ft) Type III w/ 0.25 pps cello flake, 0.3% CFL-3, 0.3% CFR-2, and CaCl<sub>2</sub> as necessary, mixed at 14.8 ppg and 1.33 cu-ft/sk yield. Cement volume based on 100' in 3 1/2" casing, 704' in a 10-1/2" OH with 40% excess, and 200' in 8 5/8" casing.
8. TOOH 2 1/16" tubing landed at 7240'. Stand back 2 1/16" tubing.
9. RIH with scaper for 3-1/2" 9.3# casing to 7000'. POOH and stand back 7000' of tubing.
10. MIRU WL. PU 3 1/2" 9.3# CIBP and RIH with WL. Set at +/- 6980'. PT to 1000 psi for 15 minutes. RDMO WL.
11. RIH with 2 1/16" tubing to +/- 6980', tag CIBP and PUH 5'. Hydrotest tubing to 3000 psi while RIH.
12. RU cementers. Pump Niobrara plug: 20 sx (30 cu-ft) Thermal 35 w/ 0.5% CFR-2 and 0.25% FMC, mixed at 15.6 ppg and 1.51 cu-ft/sk yield. Cement volume based on 580' in 3 1/2" casing.
13. PUH to +/- 6000'. Reverse circulate with biocide treated water to displace cement and clear tubing.
14. POOH. Stand back 1515' of tubing.
15. MIRU WL. PU 1' 2 1/2" perf gun with 6 spf, 60 degree phasing, 0.49" EHD and RIH with WL. Shoot 1' of squeeze holes at 4680'. RDMO WL.
16. Establish circulation down 3 1/2" casing up the 8 5/8" X 3 1/2" annulus with biocide treated water. If circulation cannot be established, consult with Evans Engineering.

TOC: 6192' FHM: 1315' SX Top: 4372' Nio Top: 6973'

Uncompaghre Campaign (has COA)

SX is productive within 1 mile, SH is not

Alfalfa Hay

Gyro ran 4/9/14

Original Gerrity Well

17. MIRU cementers. Establish circulation with biocide treated water down 3 ½" casing and precede cement with 5 bbl biocide treated water, 20 bbl sodium metasilicate, and another 5 bbl water spacer.
18. Pump Sussex squeeze down 3 ½" casing: 310 sx (368 cu-ft) 0:1:0 'G' w/ 0.25 pps cello flake, 0.5% CFR-2, 0.2% FMC, 0.5% LWA, mixed at 15.8 ppg and 1.15 cu-ft/sk yield. Displace cement with wiper plug and 36 bbls of water to place TOC and plug at 4170'. Cement volume based on 510' in 3 ½" casing and 510' in a 10-1/2" OH with 20% excess. RDMO cementers. WOC per cement company recommendation.
19. MIRU WL. RIH with jet cutter, tag cement at or above 4170'. If not, consult with Evans Engineering.
20. Shoot off 3 ½" casing at or below 1415'. RDMO WL. Circulate casing with biocide treated water to remove any gas.
21. ND BOP, NDTH.
22. Install BOP on casing head with 3 ½" pipe rams.
23. TOO 3 ½" casing, LD.
24. RIH with 2 1/16" tubing to 1515' inside 3 ½" casing.
25. MIRU cementers. Establish circulation with biocide treated water, pump bottoms up and precede cement with 10 bbl SAPP and a minimum 20 bbl fresh water spacer. Pump Foxhills plug: 510 sx (678 cu-ft) Type III w/ 0.25 pps cello flake, 0.3% CFL-3, 0.3% CFR-2, and CaCl<sub>2</sub> as necessary, mixed at 14.8 ppg and 1.33 cu-ft/sk yield. Cement volume based on 100' in 3 ½" casing, 704' in a 10-1/2" OH with 40% excess, and 200' in 8 5/8" casing.
26. RDMO cementers.
27. PUH to 400' and circulate with biocide treated water to displace cement and clear tubing.
28. WOC per cement company recommendation. Tag cement at or above 611'. If not, consult with Evans Engineering.
29. MIRU WL. RIH 8 5/8" 24# CIBP to 80'. Set and pressure test to 1000 psi for 15 minutes. If tests, RDMO WL and WO rig.
30. Instruct cementing and wireline contractors to email copies of all job logs/jobs summaries to [rsdJVVendors@anadarko.com](mailto:rsdJVVendors@anadarko.com) within 24 hours of completion of the job.
31. Supervisor is to submit paper copies of all invoices, logs, and reports to Evans Engineering Specialist.
32. Excavation crew to notify One Call to clear excavation area around wellhead and for flowlines.
33. Excavate hole around surface casing enough to allow welder to cut casing minimum 5' below ground level.
34. Welder cut casing minimum 5' below ground level.
35. Fill casing to surface using 4500 psi compressive strength cement, (NO gravel).
36. Spot weld on steel marker plate. Marker should contain well name, well number, legal location (1/4 1/4 descriptor) and API number.
37. Obtain GPS location data as per COGCC Rule 215 and send to [rsdJVVendors@anadarko.com](mailto:rsdJVVendors@anadarko.com).
38. Properly abandon flowlines per Rule 1103. File electronic Form 42 once abandonment complete.
39. Back fill hole with fill. Clean location, level.

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