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## PLUG and ABANDONMENT PROCEDURE

### WILDFLOWER 37-27

#### Step Description

1. Provide 48 hour notice to COGCC prior to rig up per request on approved Form 6 (e.g. call field coordinator, 42, etc.). Notify Automation Removal Group at least 24 hours prior to rig move. Request they catch and re-isolate production equipment, and remove any automation prior to rig MIRU.
2. MIRU Slickline and VES. WELL NEEDS GYRO RAN. Run gyro to 8404', making stops every 100'. RDMO Slicklin
3. Prepare location for base beam equipped rig. Install perimeter fence as needed.
4. Verify COAs before RU.
5. Upon RU, check and record bradenhead pressure. If bradenhead valve is not accessible, re-plumb so that val GL. Blow down bradenhead and re-check pressure the next day. Repeat until pressure stays at 0 psi.
6. MIRU WO rig. Spot a min of 50 jts of 2-3/8" 4.7#, J-55, EUE tbg. Kill well as necessary using clean fresh water ND WH. NU BOP. Unland tbg using unlanding joint and LD.
7. TOO H and SB 7600' 2-3/8" tbg. LD any remaining tbg.
8. MIRU WL. PU and RIH with (4.5", 11.6#) gauge ring to 8360'. POOH.
9. PU and RIH with (4.5", 11.6#) CIBP and set at +/- 8350' (collars at 8336' & 8380'). POOH. RIH and dump 2 sx CIBP. POOH.
10. PU and RIH with (4.5", 11.6#) CIBP and set at +/- 7600' (collars at 7582' & 7626'). POOH. RDMO WL.
11. MIRU hydrotesters. TIH with 2-3/8" tbg to 7600' while hydrotesting to 3000 psi. RDMO hydrotesters.
12. Load hole with biocide treated fresh water and circulate all gas out of well. PT CIBP to 1000psi for 15 minute
13. MIRU Cementers. Pump Niobrara Balance Plug: Pump 25 sxs (39cf), assuming 15.8 ppg & 1.53 cf/sk. Volume 400' inside 4.5", 11.6# production casing with no excess. Cement will be from 7600'-7200'. RD cementers.
14. Slowly pull out of the cement. LD tbg while TOO H to 4980'.
15. Establish circulation to surface with biocide treated fresh water.
16. RU Cementers. Pump Sussex Balance Plug: Pump 30 sx (46 cf), assuming 15.8 ppg & 1.53 cf/sk. Volume is ba inside 4.5", 11.6# production casing with no excess. Cement will be from 4980'-4500'. RD cementers.
17. Slowly pull out of the cement and TOO H to 4000'. Reverse circulate to ensure no cement is left in the tbg.
18. TOO H and SB 1100' of 2-3/8" tbg. LD remaining tbg.
19. MIRU WL. RIH and tag cement. Cement top needs to be at or above 4504' (200' above the SX top at 4704'). ( Engineering if tag is lower than 4504'. RIH and jet cut 4.5", 11.6# casing at 1000'. RDMO WL.
20. Attempt to establish circulation and circulate 69 bbls with fresh water containing biocide to remove any gas.
21. ND BOP. ND TH. Un-land casing using a casing spear, not a lifting sub. Rig max pull shall be 100,000#. Max pu weight shall be 50,000#. If unable to unland, contact Engineering.
22. Install BOP on casing head with 4.5", 11.6# pipe rams.
23. TOO H and LD all 4.5", 11.6# casing. Remove 4.5", 11.6# pipe rams and install 2-3/8" pipe rams.
24. TIH with mule shoe and 2-3/8" tubing to 1100'.
25. Establish circulation with biocide treated fresh water and pump one hole volume 71 bbls.
26. RU Cementers. Pump 10 bbls (min) of pre-flush, followed by 5 bbls fresh water spacer. Pump Stub Plug: 110 with 0.25 lb/sk Polyflake, assuming 15.8 ppg & 1.50 cf/sk. Volume is based on 100' in 4.5", 11.6# production no excess, 146' in 7.88" bit size w/ 60% excess factor, and 204' in the 8-5/8", 24# surface casing with no exce designed to cover 1100'-650'. RDMO cementers. Notify engineering if circulation is ever lost during job.
27. Slowly pull out of the cement and TOO H to 100'. Reverse circulate using biocide treated fresh water, to ensu is clean. TOO H, LD all 2-3/8" tbg.
28. MIRU WL. Tag cement as needed. RIH 8-5/8", 24# CIBP to 80'. RDMO WL and WO rig.
29. 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.

- 30.** Supervisor submit paper copies of all invoices, logs, and reports to VWP Engineering Specialist.
- 31.** Excavation crew to notify One Call to clear excavation area around wellhead and for flow lines.
- 32.** Capping crew will set and secure night cap on 8-5/8", 24# casing head, restrain the casing head, pressure test psi with hydrotest pump, then remove night cap and casing head restraints.
- 33.** Excavate hole around surface casing enough to allow welder to cut casing a 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 de API number).
- 37.** Obtain GPS location data as per COGCC Rule 215 and send to [rscDJVendors@anadarko.com](mailto:rscDJVendors@anadarko.com).
- 38.** Properly abandon flow lines per Rule 1103. File electronic Form 42 once abandonment is complete.
- 39.** Back fill hole with fill. Clean location, and level.
- 40.** Submit Form 6 to COGCC ensuring to provide 'As performed' WBD identifying operations completed.

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