

PLUG and ABANDONMENT PROCEDURE

SAKATA RED W 6-2

Step	Description of Work
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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. Pull bumper spring and tag bottom. Record tag depth in Open Wells. A 2-7/8" Liner TOP is located at 7445'. RD slickline.
3. Arrange delivery of 25 joints 2-3/8" 4.70 lb/ft J-55 tubing.
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 9/28/2015 recorded a Bradenhead pressure of 1 to 0 psi, 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.
8. A PKR is reported to be at 6251'. Pressure test the PKR to 1000 psi for 15 minutes. Call Michael Lee (970-302-4601) with the results of the pressure test (Michael is tracking PKR data). Report PKR pressure test findings in Open Wells.
9. Call Thunderbird Services and ask them to come out and release the PKR.
10. Unseat landing joint, and LD.
11. TOOH, SB 7445' of 2-3/8" tubing, and LD PKR. Thunderbird Services will provide Evans Engineering with a condition report of all rubber PKR components, in addition to rebuilding the PKR.
12. *NOTE:* The 2-7/8" Liner TOP is located at 7445'.
13. PU scraper and cautiously RIH to 7445' for 4-1/2" 11.6 lb/ft casing. TOOH, SB 7280' tubing, and LD scraper.
14. MIRU WL. PU 4-1/2" CIBP and set at 7440' (the lowest collar is located at 7422') to abandon the J Sand perfs.
15. PU dump bailer and spot 2 sxs of "G" cement on the CIBP at 7440'.
16. Set a second CIBP at 7280' (collars located at 7253' and 7296') to abandon the Codell perfs. RD WL.
17. RU hydrotesters. TIH with 2-3/8" tubing to 7280' while hydrotesting to 3000 psi. Fill hole with biocide treated water, circulate gas out of the hole, and pressure test CIBP to 1000 psi for 15 minutes. RD hydrotesters. *Monitor bradenhead pressure during test. Contact Evans Engineering if the bradenhead pressure is affected by the casing test.*
18. RU cementers. Pump Niobrara plug: 35 sxs (54 cf) Thermal 35 +0.5% CFR-2+0.25% FMC, mixed at 15.6 ppg & 1.51 cf/sk. The plug will cover 7280' to 6666'. Volume is based on 614' inside 4-1/2" production casing with no excess. RD cementers.
19. Slowly pull out of the cement and PUH to 6400'. Reverse circulate to ensure no cement is left in the tubing. PUH to 4560'.

Engineer: Tod Haanes

Cell: 303-929-2339

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- 20. RU Cementers.** Pump Sussex balanced plug: 40 sxs (47 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 4560' - 4026'. Volume is based on 534' in 4-1/2" production casing with no excess. RD cementers.
- 21.** Slowly pull out of the cement and PUH to 3800'. Reverse circulate to ensure no cement is left in the tubing. PUH to 3700' and WOC.
- 22.** WOC per cement company recommendation. Tag cement. Cement top needs to be at or above 4064' (200' above the Sussex TOP of 4264').
- 23.** TOOH and SB 1240' 2-3/8" tubing.
- 24.** RU WL. RIH and cut 4-1/2" casing at 1140'. RD WL.
- 25.** Circulate with fresh water containing biocide to remove any gas.
- 26.** Un-land casing. ND BOP. ND TH. Install BOP on casing head with 4-1/2" pipe rams.
- 27.** TOOH and LD 1140' of 4-1/2" casing. Remove 4-1/2" pipe rams and install 2-3/8" pipe rams.
- 28.** RIH with 2-3/8" tubing to 1240'.
- 29.** Establish circulation with biocide treated water, and get bottoms up.
- 30. RU Cementers.** Precede cement with 10 bbl (min) SAPP followed by a 20 bbl fresh water spacer. Pump Stub Plug: 530 sxs (705 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, 615' in 11.5" OH from caliper with 40% excess, and 211' in 8-5/8" surface casing with no excess). The plug will cover 1240' - 314'. RD cementers.
- 31.** Slowly PUH to +/- 300'. Reverse circulate to ensure no cement is left in the tubing, and that TOC is no higher than +/- 300' (a CIBP will be set at 80'). PUH to 100' and WOC.
- 32.** WOC per cement company recommendation. Tag cement. Cement top needs to be at or above 425' (100' above the surface casing shoe located at 525'). TOOH.
- 33.** RU WL. RIH 8-5/8" CIBP to 80'. Set and pressure test to 1000 psi for 15 minutes. RDMO WL and WO rig.
- 34.** 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.
- 35.** Supervisor submit paper copies of all invoices, logs, and reports to Evans Engineering Specialist.
- 36.** Excavation crew to notify One Call to clear excavation area around wellhead and for flow lines.
- 37.** Excavate hole around surface casing enough to allow welder to cut casing a minimum 5' below ground level.
- 38.** Welder cut casing minimum 5' below ground level.
- 39.** Fill casing to surface using 4500 psi compressive strength cement (NO gravel).
- 40.** Spot weld on steel marker plate. Marker should contain Well name, Well number, legal location (1/4 1/4 descriptor) and API number.
- 41.** Obtain GPS location data as per COGCC Rule 215 and send to rscDJVendors@anadarko.com.
- 42.** Properly abandon flow lines per Rule 1103. File electronic Form 42 once abandonment is complete.
- 43.** Back fill hole with fill. Clean location, and level.
- 44.** Submit Form 6 to COGCC ensuring to provide 'As performed' WBD identifying operations completed.