Moser Inc UPRR 31-33 #1: Plug & Abandonment

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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 equipment prior to MIRU.

2 MIRU slickline. RIH to retrieve production equipment and tag for fill. Note tagged depth in OpenWells. **MIRU **pressure bomb services. Pull bumper spring, tag bottom, run pressure bomb survey and obtain pressure gradient survey from surface to 7,247' to surface making gradient stops every 1,000'. Forward pressure bomb results to Evens Engineering. RDMO pressure bomb services. MIRU VES. Run gyro survey from seating nipple at 7,225' to surface with stops every 100'. Forward gyro survey data and invoices to Sabrina Frantz**** RDMO slickline and VES.

3 Prepare location for base beam equipped rig. Install perimeter fence as needed.

4 Check and report surface casing pressure. If surface casing is not accessible at ground level, re-plumb so valve is at ground level.

5 MIRU WO rig. Kill well as necessary with water and biocide. ND wellhead. NU BOP.

6 Unland 2-3/8" tbg (233 total joints landed at 7,226') and TOOH standing back 6,950' of 2-3/8" tubing. LD extra tubing.

7 PU & TIH with casing scraper for 4-1/2" 15.1# production casing to 6,950'. TOOH stand back 6,895' of 2-3/8" tubing and LD casing scraper and extra tubing joints.

8 PU and RIH with CIBP (4-1/2", 15.1#) and 6,895' of 2-3/8" tbg. Set CIBP at 6,895' (collars at 6,880' and 6,906').

9 PUH just above CIBP and circulate all gas out of the hole. Pumping water with biocide, pressure test the CIBP and production casing to 1,000 psi for 15 minutes. Be sure gas is circulated out of hole so CBL can be run. **If pressure test passes, proceed; otherwise contact engineering.** TOOH and stand back all tbg.

10 MIRU wireline. PU and RIH with CCL-GR-CBL-VDL. Log from 4,800' to surface while holding +/- 1,000 psi on casing to verify existing cement coverage over the Sussex (there are two conflicting cementing reports). RDMO wireline. **Contact engineering with CBL results to determine if any modifications are required for the remaining steps in the procedure.**

11 MIRU hydrotester. Hydrotest 2-3/8" tubing to 3,000 psi while TIH open ended. Tag CIBP set at 6,895'.

12 MIRU cementing services. Establish circulation with water and pump 20 sx Class "G" cement with 20% silica flour, 0.4% CD-32, 0.4% ASA-301 and R3 (to achieve 2-1/2 hr. pump time) mixed at 15.8 ppg and 1.38 cuft/sx (cement volumes based on 4-1/2" 15.1# casing capacity from 6,895' to 6,550'). Displace cement to estimated TOC at 6,550' using approx. 25 bbls water. TOOH and LD 2-3/8" tubing so EOT is at +/- 6,350'. Reverse circulate using approx. 50 bbls water (2 times tubing volume) or until returns are clean.

13 ****NOTE ALL BELOW STEPS ASSUME SUSSEX CEMENT COVERAGE FROM 4,676' TO 1,500'****

14 PUH with 2-3/8" tubing open ended to 4,780' and LD extra tbg.

15 MIRU cementing services. Establish circulation with water and pump 55 sx Class "G" cement with with 0.4% CD-32 and 0.4% ASA-301 mixed at 15.8 ppg and 1.15 cuft/sx (cement volumes based on 4-1/2" 15.1# casing capacity from 4,780' to 4,000' with ~1 sk. excess). Displace cement to estimate TOC at 3,990' using 15.5 bbls water. TOOH and stand back 2-3/8" tubing so EOT at +/- 3,800'. Reverse circulate using approx. 30 bbls water (2 times tubing volume) or until returns are clean. RDMO cementing services. WOC to set up per cementing company recommendation.

16 PU and TIH with 2-3/8" tubing to tag cement plug at +/- 4,000'. If cement is not above 4,000' contact engineer, otherwise proceed to next step.

17 TOOH and stand back 1,370' of 2-3/8" tubing. LD extra tubing.

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18 RIH and jet cut 4-1/2" production casing at 1,270'. RDMO wireline. Circulate bottoms up and continue circulating to remove any gas from wellbore.
19 ND BOP. Install BOP on surface casing head with 4-1/2" pipe rams. Install 3,000 psi ball valves on both casing head outlets. Install a choke or choke manifold on one outlet.
20 TOOH and LD 1,259' of 4-1/2" casing.
21 TIH with 2-3/8" tubing open ended to 1,370' (100' inside the 4-1/2" stub).
22 MIRU cementing services. Establish circulation through 2-3/8" tubing with water and pump 10 bbls SAPP mud flush, 20 bbls fresh water spacer, then balanced stub plug using 550 sx Type III cement with cello flake and CaCl2 as necessary, mixed at 14.8 ppg and 1.33 cuft/sx (cement volumes based on 100' inside 4-1/2" 15.1# casing, 702' in 11" hole with 40% excess, and 200' in 8-5/8" 24# surface casing). RDMO cementing services.
23 TOOH and LD 2-3/8" tubing until end of tubing is at +/- 200'. Circulate down tubing and up surface casing/tubing annulus until returns are clean to ensure CIBP can be set in clean surface casing. Finish TOOH and LD 2-3/8" tubing. WOC to set up per cementing company recommendation.
24 PU and TIH with 2-3/8" tubing to tag cement plug at +/- 460'. If cement is not above 460' contact engineer, otherwise proceed to next step.
25 TOOH and LD all 2-3/8" tubing.
26 MIRU wireline. PU and RIH with CIBP (8-5/8", 24#/ft). Set CIBP at 80' and pressure test the CIBP to 1,000 psi for 15 mins. If pressure test fails contact engineering, otherwise proceed to next step.
27 RDMO wireline. RDMO WO rig.
28 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 job.
29 Supervisor submit paper copies of all invoices, logs, and reports to Engineering Specialist.
30 Excavation crew to notify One Call to clear excavation area around wellhead and for flowlines.
31 Excavate hole around surface casing enough to allow welder to cut casing minimum of 5' below ground level.
32 Welder cut casing minimum of 5' below ground level.
33 Fill casing to surface using 4,500 psi compressive strength cement (NO GRAVEL).
34 Spot weld on steel marker plate. Marker should contain well name, well number, legal location (1/4 1/4 descriptor), and API number.
35 Obtain GPS location data as per COGCC Rule 215 and send to rscDJVendors@anadarko.com
36 Properly abandon flowline per Rule 1103. File electronic Form 42 once abandonment complete.
37 Back fill hole with fill. Clean and level location.
38 Submit Form 6 to COGCC ensuring to provide "As Performed" WBD identifying operations completed.