

PLUG AND ABANDONMENT PROCEDURE

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PALMER X 20-05

Step	Description of Work
1	Provide 48 hr 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 hr prior to rig move. Request they catch and remove plunger, isolate production equipment and remove any automation prior to rig MIRU.
2	Existing RBP set in 2013 should be at 7275' with possible sand on top.
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. No Form 17 on file.
5	MIRU, kill as necessary using clean fresh water with biocide. ND WH. NU BOP.
6	Spot tubing trailer with 235 jts (7265') of 2 3/8" workstring.
7	MIRU hydrotester. Hydrotest 2 3/8" tubing down to ~7265'.
8	Pressure test existing RBP to 1000 psi for 15 minutes. Contact Evans Engineering if pressure test does not pass.
9	RU Cementers. Pump Niobrara Balanced Plug: 40 sx (55 cuft) "G" w/ 20% silica flour, 0.4% CD-32, 0.4% ASA-301 and R-3 to achieve 2:30 pump time, mixed at 15.8 ppg and 1.38 cuft/sx. The plug will cover 7265' to 6620'. Volume based on 645' inside 4 1/2" production casing with no excess.
10	PUH to 6400' and circulate tubing clean to ensure no cement is left in the tubing.
11	PUH to 4875', LD remainder.
12	RU Cementers. Pump Balanced Plug: 45 sx (52 cuft) Class "G" cement with 0.4% CD-32, 0.4% ASA-301 mixed at 15.8 ppg and 1.15 cuft/sx. The plug will cover 4875' - 4290'.
13	PUH to 4000' and circulate tubing clean to ensure no cement is left in the tubing.
14	WOC per cement company recommendation. Tag cement. Cement top needs to be above 4290'.
15	PUH to 1470', LD remainder.

- 16 MIRU Cementers. Pump Balanced Plug: 45 sx (60 cuft) Type III w/ cello flake and CaCl₂ as deemed necessary, mixed at 14.8 ppg and 1.33 cuft/sx (595' in 4 1/2" production casing with no excess). The plug will cover 1470' - 775'. RD cementers.
- 17 Pull up to 400' and circulate tubing clean using fresh water treated with biocide. TOOH.
- 18 WOC per cement company recommendation. Tag cement. Cement top needs to be above 879'.
- 19 MIRU WL. RIH 4 1/2" CIBP to 150'. Set and pressure test to 1000 psi for 15 minutes. RDMO WL and WO rig.
- 20 Instruct cementing and wireline contractors to e-mail copies of all job logs/job summaries to rscDJVendors@anadarko.com within 24 hrs of completion of the job.
- 21 Supervisor submit paper copies of all invoices, logs, and reports to Evans Engineering Specialist.
- 22 Excavation crew to notify One Call to clear excavation area around wellhead and for flowlines.
- 23 Excavate hole around surface casing enough to allow welder to cut casing minimum 5' below ground level.
- 24 Welder cut casing minimum 5' below ground level.
- 25 Fill casing to surface using 4500 psi compressive strength cement, (NO gravel).
- 26 Spot weld on steel marker plate. Marker should contain Well name, Well number, legal location (1/4 1/4 descriptor) and API number.
- 27 Obtain GPS location data as per COGCC Rule 215 and send to rscDJVendors@anadarko.com.
- 28 Properly abandon flowlines per Rule 1103. File electronic Form 42 once abandonment complete.
- 29 Back fill hole with fill. Clean location, level.
- 30 Submit Form 6 to COGCC ensuring to provide 'As performed' WBD identifying operations completed.