

PLUG AND ABANDONMENT PROCEDURE

UPRC 5-3K

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 IOC (970-506-5980) at least 24 hr prior to rig move. Request they isolate production equipment prior to rig MIRU.
2	Prepare location for base beam equipped rig. Install perimeter fence as needed.
3	Check and report surface casing pressure. If surface casing is not accessible at ground level, re-plumb so valve is at ground level.
4	MIRU, kill as necessary using clean fresh water with biocide. ND WH. Install full opening 3000 psi valve on 2 3/8" casing. No production tbg in well.
5	MIRU WL. RIH w/ gauge ring for 2 3/8" 4.7# tbg to 7400'. RIH 2 3/8" CIBP and set at 7340' to abandon Cd/Nb perfs. Pressure test plug and csg to 3000 psi for 15 minutes.
6	PU dump bailer and spot one sack cement on CIBP @ 7340'.
7	PU 1 - 1', 1 11/16" perf gun with 3 spf. Shoot 1' of squeeze holes at 4550'. RDWL.
8	RU Cementers. Establish circulation down 2 3/8" csg taking returns on surface csg. Pump 5 bbl water w/ biocide, 20 bbl Sodium Metasilicate, and another 5 bbl spacer immediately preceding cement. Note: If unable to circulate, consult Evans Engineering.
9	Pump Sussex cement consisting of 300 sx class "G" w/ 0.4% CD-32, 0.4% ASA-301 mixed at 15.8 ppg and 1.15 cf/sk. (345 cuft of slurry). Follow cement with a wiper plug for 2 3/8" tbg and displace w/15 bbls water to leave cement top @ 3900' in 2 3/8". Use no cello-flake in this cement due to small squeeze perfs. Cement volume based on 450' annular coverage in 10" hole with 40% excess.
10	WOC per cementing company recommendation. RU slick line unit and RIH w/gauge ring to tag plug at 3900'. RD slick line
11	ND BOP and wellhead. Install BOP on surface casing head with 2 3/8" pipe rams. Install 3000 psi ball valves on both casing head outlets. Install a choke or choke manifold on one outlet.
12	RU WL, RIH w/ chemical cutter or jet cutter and cut off 2 3/8" casing at 1100'. RDMO WL. Circulate bottoms up using drilling mud and continue circulating to remove any gas from wellbore. RD WL.
13	RU cementers. Pump 10 bbl SAPP (Sodium Acid Pyrophosphate) followed by 20 bbl (min) fresh water spacer immediately preceding cement.
14	Pump a balanced stub plug 1100'-340': 380 sx (505 cuft.) Type III cement w/ 0.25 pps cello flake and CaCl ₂ as deemed necessary mixed at 14.8 ppg and 1.33 cf/sk (design to fill 551' in 10" OH + 40% excess and 209' in 8 5/8" surface casing).

- 15 TOOH and WOC per cementing company recommendation. Tag plug; TOC should be 449' or higher. If not, Consult Evans engineering before proceeding.
- 16 MIRU WL. RIH 8 5/8" CIBP to 80'. Set and PT to 1000 psi for 15 min. If tests, RDMO WL and WO rig.
- 17 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.
- 18 Supervisor submit paper copies of all invoices, logs, and reports to Joleen Kramer.
- 19 Excavation crew to notify One Call to clear excavation area around wellhead and for flowlines.
- 20 Excavate hole around surface casing enough to allow welder to cut 8 5/8" casing minimum 5' below ground level.
- 21 Welder cut 8 5/8" casing minimum 5' below ground level.
- 22 Fill casing to surface using 4500 psi compressive strength cement, (NO gravel).
- 23 Spot weld on steel marker plate. Marker should contain Well name, Well number, legal location (1/4 1/4 descriptor) and API number.
- 24 Obtain GPS location data as per COGCC Rule 215 and send to rscDJVendors@anadarko.com.
- 25 Properly abandon flowlines per Rule 1103. File electronic Form 42 once abandonment complete.
- 26 Back fill hole with fill. Clean location, level.
- 27 Submit Form 6 to COGCC ensuring to provide 'As performed' WBD identifying operations completed.

Engineer: David Dalton
Cell: 970-590-6245