

PLUG AND ABANDONMENT PROCEDURE

DOUTHIT, GLEN S GAS UNIT # 2

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 catch and remove plunger, isolate production equipment and remove any automation prior to rig MIRU.
2	MIRU slickline services. Pull bumper spring and tag bottom. RDMO slickline services.
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.
5	MIRU workover rig. Circulate well with water w/ biocide to kill the well. ND wellhead. NU BOPs. Unseat landing jt.
6	POOH and stand back 2-3/8" tbgs. (242 jts landed at 7645')
7	PU csg scraper for 4-1/2" 11.6# and RIH to ~7630'. POOH and LD scraper and 14 jts of 2-3/8" tbgs.
8	MIRU Wireline. RIH with 4-1/2" CIBP to 7600' +/- 10'. Dump bail 2 sks cmt on top.
9	RIH with 4-1/2" CIBP to 7170'. PT csg to 1000 psi for 15 minutes. (Note: SQZ holes @ 6820' and 6935' from remedial cement job in January 1995 prior to Codell frac.)
10	Notify Cementers to be on call.
11	RIH on 2-3/8" tbgs while hydrotesting to 3000 psi to CIBP at 7170'. Tag plug and pick up 5'.
12	RU Cementers. Pump Niobrara plug consisting of 55 cu-ft (40 sx)"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/sk. Calculated top in the 4-1/2" csg is 6550', covering sqz holes at 6820' and 6935'.
13	PUH to 6000' and circulate hole clean with fresh water w/ biocide. POOH standing back 126 jts.
14	MIRU WL. PU and RIH with 2- 1' 3-1/8" perf guns with 3 spf, 0.5" diam, 120° phasing. Shoot 1' of squeeze holes at 4450' and 3940'. RDMO WL.
15	PU 4-1/2" CICR and RIH w/2-3/8" tbgs and set at 3970'. (30' below top sqz holes).
16	RU Cementers. Establish circulation through sqz holes. Pump 5 bbls fresh water followed by 20 bbls Sodium Metasilicate followed by 5 bbls fresh water spacer. Pump Sussex Suicide plug: 391 cu-ft (340 sks) "G" w/ 0.25pps cello flake, 0.4% CD-32, 0.4% ASA-301 with CaCl ₂ as necessary. Underdisplace by 3 bbls and sting out of CICR. Spot final 3 bbls on top of CICR. Mixed at 15.8 ppg, 1.15 cuft/sack. Volume is based on 11" hole plus 20% excess and 4-1/2" csg up to 3800'.
17	PUH to ~3000' and circulate hole clean with fresh water w/ biocide. POOH standing back 34 jts 2-3/8" tbgs. Lay down stinger and remaining jts.

- 18 ND BOP and wellhead. Install a BOP on surface casing head with 4 1/2" pipe rams. Install 3000 psi ball valves on both casing head outlets. Install a choke or choke manifold on one outlet.
- 19 MIRU Wireline. Cut off 4-1/2" csg at 950' per CCL. RDMO WL. Circulate bottoms up using water and biocide to remove any gas from wellbore.
- 20 POOH and LD 4-1/2" csg. Remove the 4-1/2" pipe rams and Install 2-3/8" pipe rams.
- 21 MIRU Cementers. Fox Hills Suicide Squeeze: Pump mud flush of 10 bbls SAPP and 20 bbl water ahead of 412 cu-ft (310 sx) Type III w/cello flake and CaCl₂ as deemed necessary, mixed at 1.33 cf per sack, 14.8 ppg. Plug size is based on 11" hole with 40% excess covering 1050' to surface csg shoe at 544' and capacity in the 8-5/8" csg to 300'.
- 22 PUH to 100' and circulate hole clean. POOH and WOC at least 4 hours per cementing company recommendation.
- 23 RIH and tag top of plug. Plug needs to be tagged at 344' or shallower. Contact Reed Boeger in Evans after tag to confirm. POOH and LD 2-3/8" tbgr.
- 24 RU wireline. Run and set CIBP in the 8 5/8", 24# surface casing at 80'. PT CIBP and surface casing to 1000 psi for 15 minutes. Assuming successful test, RDMO wireline. RDMO WO Rig.
- 25 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.
- 26 Supervisor submit paper copies of all invoices, logs, and reports to Joleen Kramer.
- 27 Excavation crew to notify One Call to clear excavation area around wellhead and for flowlines.
- 28 Excavate hole around surface casing enough to allow welder to cut casing minimum 5' below ground level.
- 29 Welder cut casing minimum 5' below ground level.
- 30 Fill casing to surface using 4500 psi compressive strength cement, (NO gravel).
- 31 Spot weld on steel marker plate. Marker should contain Well name, Well number, legal location (1/4 1/4 descriptor) and API number.
- 32 Properly abandon flowlines per Rule 1103. File electronic Form 42 once abandonment complete.
- 33 Back fill hole with fill. Clean location, level.
- 34 Submit Form 6 to COGCC ensuring to provide 'As performed' WBD identifying operations completed.

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