

PLUG AND ABANDONMENT PROCEDURE HSR-McEwen 3-28A

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 isolate production equipment and remove any automation prior to rig MIRU.
2	Check and report surface casing pressure. If surface casing is not accessible at ground level, re-plumb so valve is at ground level.
3	Prepare location for base beam equipped rig. Install perimeter fence as needed.
4	MIRU, kill well as necessary using clean fresh water with biocide. ND WH. NU BOP. Unseat landing jt.
5	TOOH and stand back 2 3/8" tbg: 219 jts total landed @ 7163'. LD 10 jts 1.66" IJ tbg.
6	MIRU WL. RIH w/ gauge ring for 4 1/2" 11.6# csg to 2 7/8" liner top @ 7173'. RIH 4 1/2" CIBP and set at 7170' to abandon J sand perms.
7	PU dump bailer and spot 2 sacks of cement on CIBP @ 7170'.
8	RIH 4 1/2" CIBP and set at 6790' to abandon Codell and Niobrara perms. Pressure test plug and csg to 1000 psi for 15 minutes. RDWL.
9	RIH 2 3/8" tbg open-ended to CIBP @ 6790'. Hydro-test tbg to 3000 psi.
10	RU cementers and equalize a balanced plug above CIBP from 6790' to 6360' as follows: 25 sx "Thermal 35" + 0.5% CFR-2 + 0.25% FMC, mixed at 15.6 ppg and 1.51 cuft/sk. (38 cuft of slurry).
11	Pull and LD tbg to ~6000' and reverse circulate clean w/fresh water treated with biocide.
12	TOOH and LD tbg to place EOT @ 5000'.
13	RU cementers. Place a balanced plug in casing from 5000' to 4670': 25 sx class "G" w/ 0.5% CFR-2, 0.2% FMC, 0.5% LWA mixed at 15.8 ppg and 1.15 cf/sk. (29 cuft of slurry).
14	TOH 10 stands and reverse circulate clean w/fresh water treated with biocide to clear tbg and csg. WOC per cementing company recommendation.
15	TIH and tag plug. Tag should be at or above 4770'. If not, consult Evans Engineering.
16	TOH and stand back 3830' of tbg. LD remainder.
17	RUWL. PU 2 - 3-1/8" perf guns with 3 spf, 0.5" dia 120° phasing. Shoot 1' of squeeze holes at 4080' and 2' of holes at 3800'. RDWL.
18	PU CICR on 2 3/8" tbg. RIH and set CICR at 3830'.
19	RU Cementers. Establish circulation with biocide-treated water. Pump 5 bbl water w/ biocide, 20 bbl Sodium Metasilicate, and another 5 bbl spacer immediately preceding cement.
20	Pump Sussex Suicide: 140 sx class "G", w/0.25 pps Polyflake + 0.5% CFR-2 + 0.2% FMC + 0.5% LWA mixed at 15.8 ppg and 1.15 cuft/sk (160 cuft of slurry) to place cement between perms. Underdisplace and sting out of CICR to leave 3 bbls cement on top of retainer. Cement volume based on 9" hole with 20% excess. Caliper log on file.
21	TOH 10 stands. Circulate water containing biocide to clear tubing. TOH standing back 970' of tbg.
22	RU WL. Cut casing at 870'. Circulate bottoms up and continue circulating to remove any gas from wellbore. RDMO WL.
23	ND BOP and tubing head. Install 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.
24	TOOH and LD 4 1/2" casing. Change pipe rams to 2 3/8".
25	RIH with 2 3/8" tubing open-ended to 970' (100' inside 4 1/2" stub).
26	RU cementers. Establish circulation with biocide-treated water. Continue circulating to bring bottoms up and remove gas from wellbore. Pump 10 bbl SAPP (Sodium Acid Pyrophosphate) followed by 20 bbl (min.) fresh water spacer immediately preceding
27	Pump balanced Stub Plug from 970' to 426': 140 sx Type III w/0.25#/sk Polyflake + 0.5% CaCl2 + 0.3% CFL-3 + 0.3% CFR-2 mixed at 14.8 ppg and 1.33 cf/sx (186 cuft of slurry). Cement volume based on 100' in 4 1/2" csg, 200' in 8 5/8" csg, and 244' in 9" OH + 20% excess. Caliper log on file.
28	TOOH. WOC per cementing company recommendation. Tag Cement. TOC should be at or above 526'. If not, consult Evans Engineering.
29	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.
30	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.
31	Supervisor submit paper copies of all invoices, logs, and reports to Evans Engineering Specialist.
32	Excavation crew to notify One Call to clear excavation area around wellhead and for flowlines.
33	Excavate hole around surface casing enough to allow welder to cut 8 5/8" casing minimum 5' below ground level.

