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PLUG AND ABANDONMENT PROCEDURE

PIONEER 21-15

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 Team at least 24 hr prior to rig move. Request they catch the plunger and isolate production equipment and remove any automation prior to rig MIRU.
2	Slickline not required as well has RBP installed at 7114' currently. Tubing landed at 7058' with retrieving head.
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	The last Form 17 test on 10/23/14 recorded bradenhead pressure of 0 psi.
6	Check bradenhead pressure at beginning of job and daily throughout to ensure no pressure exists.
7	MIRU, kill as necessary using clean fresh water with biocide. ND WH. NU BOP. Unseat landing jt
8	RIH with tbg to RBP at 7114', circulate sand off of plug, latch, release and POOH SB 2-3/8" tbg and LD RBP.
9	MIRU wireline. RIH with gauge ring for 4-1/2" 11.6# to 7200'.
10	PU 4-1/2" CIBP RIH and set at 7160'. POOH
11	PT to 1000 psi for 15 min. RDMO WL.
12	RIH with 2-3/8" tbg while hydro testing to 3000 psi to CIBP at 7160'.
13	MIRU cementers. Establish circulation. Pump Nio balanced plug: Pump 30 sks (45 cuft) of Cement Blend: Thermal 35 + 0.3% CFR-2 + 0.3% ASM-3 mixed at 15.6 ppg and 1.51 cuft/sk. Designed for coverage from 7160' to 6700' inside 4-1/2" casing.
14	PUH to 6200' and circulate hole clean with fresh water and biocide.
15	PUH to 4760'.
16	RU Cementers. Establish circulation. Pump Sussex Balanced plug: 50 sks (57.5 cuft) 0:1:0 'G' + 0.5% CFR-2 + 0.2% FMC + 0.5% LWA, mixed at 15.8 ppg and 1.15 cuft/sk. Designed for coverage from 4760' to 4190' inside 4-1/2" casing.
17	PUH to 3700' and circulate hole clean. WOC per cementing company recommendation
18	RIH and tag top of plug. If plugged tagged shallower than 4190' notify engineering.
19	POOH standing back 1480' of tubing. LD remainder.

- 20 MIRU WL. Crack coupling or jet cut 4-1/2" csg at 1380'. Circulate approximately 120 bbls of fresh water and biocide to remove any gas from wellbore.
- 21 ND BOP and tubing head. 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.
- 22 POOH and LD 4-1/2" csg. Remove the 4-1/2" pipe rams and Install 2-3/8" pipe rams.
- 23 RIH with 2-3/8" tbg open ended past the 4-1/2" csg stub to 1480'.
- 24 MIRU Cementers. Establish circulation and pump Fox Hills Stub plug: Pump mud flush of 10 bbls SAPP followed by 20 bbls water ahead of 350 sx (465 cuft) Type III + 0.3% CFL-3 + 0.3% CFR-2 + 0.25 lb/sk Polyflake, mixed at 14.8 ppg and 1.34 cuft/sk. POH and WOC per cementing company recommendation. Plug size is based on 4-1/2" casing from 1480' to 1380' and 9-1/2" hole with 40% excess covering 1380' to shoe of surface casing at 822' plus capacity of surface casing to 622'. PUH to 300' and Circulate out any excess cmt. TOOH and WOC per cement company recommendation.
- 25 RIH and tag top of plug. Plug needs to be tagged at 722' or shallower. TOOH and LD 2-3/8" tbg.
- 26 RU WL. RIH with 8-5/8", 24# CIBP to 80' and set. RDMO wireline and WO rig.
- 27 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.
- 28 Supervisor submit paper copies of all invoices, logs, and reports to Evans specialist.
- 29 Excavation crew to notify One Call to clear excavation area around wellhead and for flowlines.
- 30 Capping crew will set and secure night cap on 8 5/8" casing head, restrain the casing head, pressure test CIBP to 500 psi with hydrotest pump, then remove night cap and casing head restraints.
- 31 Excavate hole around surface casing enough to allow welder to cut casing minimum 5' below ground level.
- 32 Welder cut casing minimum 5' below ground level.
- 33 Fill casing to surface using 4500 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 Properly abandon flowlines per Rule 1103. File electronic Form 42 once abandonment complete.
- 36 Back fill hole with fill. Clean location, level.
- 37 Submit Form 6 to COGCC ensuring to provide 'As performed' WBD identifying operations completed.