OCCIDENTAL PETROLEUM CORPORATION
Please contact your area engineer with any questions concerning this procedure.
9/13/2021
PLUG and ABANDONMENT PROCEDURE
FRANK 15-31 API: 05-123-27384 WINS: 92288

Step	Description
1	Review Previous Open Wells Reports/Well History. If you have questions or concerns, contact Foreman/Engineer.
2	**COA: Provide 48 hour notice to COGCC prior to rig up per request on approved Form 6 (e.g. call field coordinator, submit Form 42, etc.).**
3	Notify Automation Removal Group at least 24 hours prior to rig move. Request they catch and remove plunger, isolate production equipment, and remove any automation prior to rig MIRU.
4	MIRU Slickline. Pull production equipment and tag bottom. Record tag depth, casing/tubing pressures and fluid level in Open Wells. Gyro was run on 11/07/14. RDMO Slickline.
5	Prepare location for base beam equipped rig. Install perimeter fence as needed.
6	**COA: Verify Form 17 (State Bradenhead Test) has been run within 60 days of RU.**
7	**Refer to the Rockies Well Services Guidelines document whenever rigging up BOP and WL, or whenever tripping in or out of the well. Consult with Foreman/Engineer before deviating from these guidelines.**
8	Upon RU, check and record bradenhead pressure. If bradenhead valve is not accessible, re-plumb so that valve is above GL. Blow down bradenhead and leave open during working hours. Re-check pressure each day and input value in the "Casing press." box in Open Wells.
9	MIRU WO rig. Verify BOP and wellhead rating, inspect for appropriate API standards, pressure test BOP. Kill well as necessary using biocide treated fresh water. ND WH. NU BOP. Unland tbg. **Barrier Management** Fluid will be the only barrier while NU BOP. Stop and review JSA.
10	TOOH and SB 4270' of 2-3/8" tbg. LD remaining 2-3/8" tbg.
11	MIRU WL. PU and RIH with (4-1/2", 11.6#) gauge ring to 7210'. POOH.
12	PU and RIH with (4-1/2", 11.6#) CIBP and set at +/- 7200' (collars at 7172' & 7216'). POOH. RIH and dump 2 sx cement on CIBP. POOH.
13	PU and RIH with (4-1/2", 11.6#) CIBP and set at +/- 6958' (collars at 6930' & 6971'). POOH. Slowly top fill well to clear out all gas. Pressure test CIBP to 500 psi. RIH and dump 2 sx cement on CIBP. POOH.
14	PU and RIH with two 3-1/8'' perf guns. Shoot 12 squeeze holes at 4755' and 12 squeeze holes at 4210'. RDMO WL.
15	PU and TIH with (4-1/2", 11.6#) packer on 2-3/8" tbg. Set packer at 4270'.
16	Circulate the hole clean with treated water. Reverse circulate as needed. Use slugs of mud thinner and surfactant. Work pump rate up as high as operationally possible.
17	Release packer. TOOH, SB 2-3/8" tbg. LD packer.
18	PU and TIH with (4-1/2", 11.6#) CICR on 2-3/8" tbg. Set CICR at 4270'.
19	MIRU cementers. Pump 10 bbls (min) of pre-flush, followed by 5 bbls fresh water spacer. Pump Shannon Squeeze: 150 sx (47.9 bbl or 269 cf) of the 12 ppg Sussex blend (12 ppg & 1.79 cf/sx). Underdisplace by 4 bbls. Volume is based on 485' in the casing below the CICR, 545' in the casing-hole annulus with 60% excess, and 260' on top of the CICR. Collect wet and dry samples of cement to be left on rig. RDMO Cementers.
20	Pull out of cement. TOOH to 3510'. Reverse circulate to ensure no cement is left in the tbg.
21	TOOH and SB ' of 2-3/8" tbg. LD stinger, and remaining tbg.
22	**COA: Confirm and document static conditions in the well before placing the next plug. If there is evidence of pressure or fluid migration at any time after placing the Sussex plug, contact Engineering.**
23	MIRU WL. PU and RIH with one 3-1/8'' perf gun. Shoot 12 squeeze holes at 2000'. RDMO WL.
24	Establish circulation down the casing and out the bradenhead with treated water. Reverse circulate as needed. Use slugs of mud thinner and surfactant. Circulate the hole clean. Work pump rate up as high as operationally possible.
25	MIRU cementers. Pump Squeeze: 225 sx (49.3 bbl or 277 cf) of the Upper AGM blend (2% CaCl & 4% Gyp, 15.8 ppg & 1.23 cf/sx) down the casing. Volume is based on 500' in the casing-hole annulus with 100% excess, and 500' in the casing. Displace cement with Water. Collect wet and dry samples of cement to be left on rig. RDMO Cementers.

26	**COA: WOC 8 hours. If there is evidence of pressure or fluid migration, contact Engineering as there will need to be additional remediation attempts before the SC shoe plug.**
27	PU and TIH with mechanical cutter on 2-3/8" tbg. Cut 4-1/2", 11.6# casing at 875'. TOOH and LD cutter.
28	Attempt to establish circulation and circulate (62 bbl) with biocide treated fresh water.
29	ND BOP. ND TH. Un-land casing. Rig max pull shall be 100,000#. Max pull over string weight shall be 50,000#. If unable to unland, contact Foreman/Engineer. **Barrier Management** Fluid will be the only barrier while unlanding casing. Stop and review JSA.
30	Install BOP on casing head with 4-1/2", 11.6# pipe rams. **Barrier Management** Fluid will be the only barrier while NU BOP. Stop and review JSA.
31	TOOH and LD all 4-1/2", 11.6# casing. Remove 4-1/2", 11.6# pipe rams and install 2-3/8" pipe rams.
32	TIH with mule shoe on 2-3/8" tubing to 875'. Establish circulation to surface with biocide treated fresh water and pump at least three hole-volumes (184.5 bbl) to clean up wellbore.
33	**COA: Verify and document that all pressure and fluid migration has been eliminated prior to placing the SC shoe plug at 875'. If there is evidence of pressure or fluid migration, contact Engineering.**
34	MIRU cementers. Pump 10 bbls (min) of pre-flush, followed by 5 bbls fresh water spacer. Pump Stub Plug: Pump 120 sx (26.3 bbl or 148 cf) of the Upper AGM blend (2% CaCl & 4% Gyp, 15.8 ppg & 1.23 cf/sx). Volume is based on 104' in 7.875" bit size open hole with 100% excess factor. 201' in the 8-5/8", 24# surface casing with no excess. The plug is designed to cover 875'-570'. Collect wet and dry samples of cement to be left on rig. RDMO Cementers. Notify engineering if circulation is ever lost during job.
35	**COA: If cement was not circulated to surface, then WOC 4 hours. Tag TOC. TOC must be 721' or shallower. If tag is too deep or there is evidence of pressure or fluid migration, contact Engineering.**
36	Pull out of cement. TOOH to 170'. Reverse circulate tbg clean. WOC.
37	TIH and tag cement to verify appropriate coverage above the surface casing shoe. Consult with Foreman/Engineer on when to PT casing. Pressure test casing to 500 psi and hold for 15 minutes. Notify engineering if tag is low or pressure test fails.
38	TOOH. Lay down all tbg. ND BOP. Install night cap. RDMO WO rig.
39	Instruct cementing and wireline contractors to e-mail copies of all job logs/job summaries to rscDJVendors@anadarko.com within 24 hours of completion of the job.
40	Supervisor submit paper copies of all invoices, logs, and reports to VWP Engineering Specialist.
41	Excavation crew to notify One Call to clear excavation area around wellhead and for flow lines.
42	Excavate hole around surface casing enough to allow welder to cut casing a minimum 5’ below ground level.
43	Welder cut casing minimum 5' below ground level.
44	Fill 8-5/8", 24# surface casing from 50' to surface with 16 sx (3.3 bbl or 19 cf) of cement (15.8 ppg & 1.15 cf/sx).
45	Spot weld on steel marker plate. Marker should contain Well name, Well number, legal location (1/4 1/4 descriptor) and API number.
46	Obtain GPS location data as per COGCC Rule 215 and send to rscDJVendors@anadarko.com.
47	Properly abandon flow lines per Rule 1103. File electronic Form 42 once abandonment is complete.
48	Back fill hole with fill. Clean location, and level.
49	Submit Form 6 to COGCC ensuring to provide 'As performed' WBD identifying operations completed.

Deepest WW 1 mile: 300'; FHM: 717*'; Sussex Top: 4064'; Sussex Base: 4260'; Shannon Base: 4701'; Niobrara Top: 7008'
WELL HAS GYRO. Gyro was run on 11/07/14.
No known casing integrity issues.
SHANNON PRODUCTIVE WITHIN 1 MILE
Well was drilled by Kerr McGee.
Vertical Well.