

OCCIDENTAL PETROLEUM CORPORATION

Please contact your area engineer with any questions concerning this procedure.

11/18/2021

**PLUG and ABANDONMENT PROCEDURE**

SCHEIDT STATE 32-16

API: 05-123-19696

WINS:



**Step Description**

1	Well is being re-entered to P&A well to current standards due to it being offset to uncoming fracs.
2	Provide 48 hour notice to COGCC prior to rig up per request on approved Form 6 (i.e. submit Form 42, etc.)
3	Perform pre-job safety meeting and review JSA. Ensure all parties know their roles and responsibilities and can identify hazards.
4	Follow all Rockies Well Servicing guidelines.
5	Stop and complete new JSA prior to all barrier changes.
6	Attempt to leave kill string in the hole every evening/weekend. If this is not possible, discuss with foreman/engineer.
7	Locate and expose 8-5/8" casing stub.
8	Tie into and weld on 8-5/8" 24# casing stub above GL.
9	Install 8-5/8" 3K Q92 well head with ball valves on both outlets.
10	Check and record surface casing pressure.
11	MIRU rig/ equipment/tanks/pumps.
12	Perform negative test and ensure well is dead. Wait 15-30 minutes to verify (cement is at surface).
13	Pressure test BOPE, annular and 2" 1509 iron to API standards. Chart and record pressure tests. Please refer to Testing Procedures and Testing Table listed in the APPENDIX tab. All tests are performed on stump. <b>Note: ensure BOPE accumulator controls are properly placed and pressurized.</b>
14	NU and torque BOPE to casing head. The BOP consists of the following components: 7-1/16" double gate BOP with blind rams and pipe rams (for 4.5" DP), annular bag, 2 TIW valves accessible with change overs if applicable (i.e. drill collars).
15	Test TIW valves. Chart tests and document accordingly.
16	Spot in a pipe rack for 4.5" DP.
17	MIRU power swivel and kelly cock valve.
18	PU and TIH with 7-7/8" drag drill bit and 4.5" DP. Mud motor and agitator can be utilized after drilling out the first joint. Note: have changeovers accessible when drill collars are used.
19	Drill 10 sx cement plug from surface through estimated BOC at 30'. Continue drilling out 60 sx cement plug from estimated TOC at 773' through BOC at 953'. Continue drillout out 40 sx cement plug from estimated TOC at 4628' through BOC at 4763'. Continue drilling out 40 sx cement plug from estimated TOC at 7200' through BOC at 7344'. Conventionally circulate to clean up cuttings while drilling. Consider using gel sweeps to help clean up cuttings.
20	Circulate with biocide treated fresh water to clean the hole. Pump until returns are clean.
21	TOOH, LD drill bit, mud motor, agitator, and drill collars. SB all 4.5" DP.
22	PU and TIH with 8-5/8" bit and scraper. Clean surface casing from surface to 870'. Run scraper over 250' to 270' 2-3 times to ensure casing is clean for CIBP. TOOH, LD bit and scraper, SB all DP.
23	TIH with spiral diverter tool on 4.5" DP to 8200'. Establish circulation to surface with biocide treated fresh water and pump at least three hole-volumes to clean up wellbore. Start at a low rate, then once returns are clean, slowly increase rate to 4 bpm.
24	MIRU cementers. Pump 10 bbls (min) of pre-flush, followed by 5 bbls fresh water spacer. Pump Squeeze: 139 sx (37.7 bbl or 211 cf) of the AGM Nio blend: 0.4% Latex, 0.4% Fluid Loss, 0.2% Retarder, 35% Silica Flour, 0.3% Dispersant. Volume based on 500' in 7.875" bit size open hole with 25% excess factor. Cement will be from 8200'-7700'. Collect wet and dry samples of cement to be left on rig. RDMO Cementers. Notify engineering if circulation is ever lost during job.
25	Pull out of cement. TOOH to 7500'. Forward circulate tbg clean. SB 4.5" DP, LD remaining. WOC.

26	TIH with spiral diverter tool on 4.5" DP to 7500'. Establish circulation to surface with biocide treated fresh water and pump at least three hole-volumes to clean up wellbore. Start at a low rate, then once returns are clean, slowly increase rate to 4 bpm.
27	MIRU cementers. Pump 10 bbls (min) of pre-flush, followed by 5 bbls fresh water spacer. Pump Squeeze: 139 sx (37.7 bbl or 211 cf) of the AGM Nio blend: 0.4% Latex, 0.4% Fluid Loss, 0.2% Retarder, 35% Silica Flour, 0.3% Dispersant. Volume based on 500' in 7.875" bit size open hole with 25% excess factor. Cement will be from 7500'-7000'. Collect wet and dry samples of cement to be left on rig. RDMO Cementers. Notify engineering if circulation is ever lost during job.
28	Pull out of cement. TOOH to 4600'. Forward circulate tbgs clean. SB 4.5" DP, LD remaining. WOC.
29	TIH with spiral diverter tool on 4.5" DP to 4600'. Establish circulation to surface with biocide treated fresh water and pump at least three hole-volumes to clean up wellbore. Start at a low rate, then once returns are clean, slowly increase rate to 4 bpm.
30	MIRU cementers. Pump 10 bbls (min) of pre-flush, followed by 5 bbls fresh water spacer. Pump Sussex Plug at 4-6 bpm: Pump 320 sx (67.8 bbl or 381 cf) of the Sussex AGM blend (15.8 ppg & 1.19 cf/sx). Volume based on 900' in 7.875" bit size open hole with 25% excess factor. Cement will be from 4600'-3700'. Collect wet and dry samples of cement to be left on rig. RDMO Cementers. Notify engineering if circulation is ever lost during job.
31	Pull out of cement. TOOH to 3500'. Forward circulate tbgs clean. SB 3700' 4.5" DP, LD remaining. WOC.
32	TIH with spiral diverter tool on 4.5" DP to 3500'. Establish circulation to surface with biocide treated fresh water and pump at least three hole-volumes to clean up wellbore. Start at a low rate, then once returns are clean, slowly increase rate to 4 bpm.
33	MIRU cementers. Pump 10 bbls (min) of pre-flush, followed by 5 bbls fresh water spacer. Pump Upper Pierre Plug at 4-6 bpm: Pump 350 sx (75.3 bbl or 422.4 cf) of the Lower AGM blend (1% CaCl & 4% Gyp, 15.8 ppg & 1.21 cf/sx). Volume based on 1000' in 7.875" bit size open hole with 25% excess factor. Cement will be from 3500'-2500'. Collect wet and dry samples of cement to be left on rig. RDMO Cementers. Notify engineering if circulation is ever lost during job.
34	Pull out of cement. TOOH to 2200'. Forward circulate tbgs clean. SB 2500' 4.5" DP, LD remaining. WOC.
35	TIH with spiral diverter tool on 4.5" DP to 2200'. Establish circulation to surface with biocide treated fresh water and pump at least three hole-volumes to clean up wellbore. Start at a low rate, then once returns are clean, slowly increase rate to 4 bpm.
36	MIRU cementers. Pump 10 bbls (min) of pre-flush, followed by 5 bbls fresh water spacer. Pump Upper Pierre Plug at 4-6 bpm: Pump 350 sx (75.3 bbl or 422.4 cf) of the Upper AGM blend (1% CaCl & 4% Gyp, 15.8 ppg & 1.21 cf/sx). Volume based on 1000' in 7.875" bit size open hole with 25% excess factor. Cement will be from 2200'-1200'. Collect wet and dry samples of cement to be left on rig. RDMO Cementers. Notify engineering if circulation is ever lost during job.
37	Pull out of cement. TOOH to 1000'. Forward circulate tbgs clean. SB 1200' 4.5" DP, LD remaining. WOC.
38	TIH with spiral diverter tool and tag TOC at 1200'. Establish circulation to surface and pump at least three hole-volumes to clean up wellbore. Start at a low rate, then once returns are clean, slowly increase rate to 4 bpm.
39	Load hole with 75 bbls of heated surfactant to clean surface casing walls, wellhead, and surface valves/lines. Let soak for at least 2 hours. Circulate out heated surfactant with fresh water.
40	MIRU cementers. Pump 10 bbls (min) of pre-flush, followed by 5 bbls fresh water spacer. Pump Stub Plug at 4-6 bpm: Pump 135 sx (28 bbl or 159 cf) of the Upper AGM blend (1% CaCl & 4% Gyp, 15.8 ppg & 1.21 cf/sx). Volume is based on 121' in 7.875" bit size open hole with 100% excess factor. 114' in the 8-5/8", 24# surface casing with no excess. The plug is designed to cover 1000'-670'. Collect wet and dry samples of cement to be left on rig. RDMO Cementers. Notify engineering if circulation is ever lost during job.
41	Pull out of cement. TOOH to 250'. Reverse circulate tbgs clean with fresh water. WOC.
42	<b>COA: If cement was not circulated to surface, then WOC 4 hours. Tag TOC. TOC must be 820' or shallower. If tag is too deep or there is evidence of pressure or fluid migration, contact Engineering.</b>
43	ND BOP. NU 9" BOP.

44	MRIU WL. RIH and tag cement with gauge ring to verify appropriate coverage above the surface casing shoe. Notify engineering if tag is low. Pressure test TOC to 500psi for 15 minutes. Record and notify engineering and foreman of results.
45	PU and RIH with 8-5/8" 24# CIBP. Set CIBP at 260'. POOH. RDMO WL.
46	TIH with diverter tool on 4.5" DP to 250'. Swab well down.
47	MIRU Cementers. Pump Surface Plug at 4-6 bpm: Pump 75 sx (16.2 bbl or 91 cf) of the Upper AGM blend (1% CaCl & 4% Gyp, 15.8 ppg & 1.21 cf/sx). Volume based on 250' inside 8-5/8", 24# surface casing with no excess. Cement will be from 250' to surface. Verify and document cement to surface. Collect wet and dry samples of cement to be left on rig.
48	Pull out of cement. TOOH, LD all but one joint of 4.5" DP. Circulate clean with water to ensure TOC is low enough for C&C team. TOOH and LD final joint of 4.5" DP. RDMO cementers. ND BOP. Install night cap. RDMO WO rig.
49	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.
50	Supervisor submit paper copies of all invoices, logs, and reports to VWP Engineering Specialist.
51	Excavation crew to notify One Call to clear excavation area around wellhead and for flow lines.
52	Excavate hole around surface casing enough to allow welder to cut casing a minimum 5' below ground level.
53	Welder cut casing minimum 5' below ground level.
54	Spot weld on steel marker plate. Marker should contain Well name, Well number, legal location (1/4 1/4 descriptor) and API number.
55	Obtain GPS location data as per COGCC Rule 215 and send to rscDJVendors@anadarko.com.
56	Properly abandon flow lines per Rule 1103. File electronic Form 42 once abandonment is complete.
57	Back fill hole with fill. Clean location, and level.
58	Submit Form 6 to COGCC ensuring to provide 'As performed' WBD identifying operations completed.

Deepest WW 1 mile: 800'; FHM: N/A'; Sussex Top: 4578'; Sussex Base: 4878'; Shannon Base: N/A'; Niobrara Top: 7320'

No known casing integrity issues.

SUSSEX PRODUCTIVE WITHIN 1 MILE

Well was drilled by NORTH AMERICAN RESOURCES COMPANY.

Vertical Well.