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## PLUG and ABANDONMENT PROCEDURE

### NELSON MILTON H D1A

Step	Description of Work
1	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.). Notify Automation Removal Group at least 24 hours prior to rig move. Isolate production equipment, and remove any automation prior to rig MIRU.
2	MIRU Slickline. Gyro ran 2/14/2015. Record tag depth in Open Wells. RD slickline.
3	Prepare location for base beam equipped rig. Install perimeter fence as needed.
4	Verify COAs before RU.
5	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 re-check pressure the next day. Repeat until pressure stays at 0 psi.
6	MIRU WO rig. Spot a min of 25 jts of 1-1/4" 2.33#, J-55 tbg and 1000' of 2-3/8" 4.7# tbg. Kill well as necessary using clean fresh water with biocide. ND WH. NU BOP. Unland tbg using unlanding joint and LD.
7	This well has two 4-1/2" RBPs downhole at 4312' and 4375'. PU and TIH with (4.5", 10.5#) retrieving head and remove both RBPs. TOO, LD RBPs. SB 7245' 1-1/4" 2.33# tbg.
8	RU WL. PU and RIH with (2-7/8", 6.5#) CIBP and set at +/- 7920' to abandon the J Sand perfs. POOH. RIH and dump 2 sx cement on CIBP. POOH.
9	PU and RIH with (2-7/8", 6.5#) CIBP and set at +/- 7245' to abandon the Nio formation. POOH. RD WL.
10	TIH with 1-1/4" tbg while hydrotesting to 3000 psi to 7245'. Circulate all gas from well.
11	<u>RU Cementers. Pump Nio Balance Plug:</u> 10 sx (15 cf) w/ Polyflake, 15.8 ppg & 1.53 cf/sk. Volume is based on 400' in 2-7/8" liner. Cement will be from 7245' – 6845'.
12	Slowly pull out of the cement while TOO to 6000'. Reverse circulate to ensure the tbg is clean. TOO and SB 4350' of 1-1/4" tbg. LD remainder.
13	RU WL. PU and RIH with (2-7/8", 6.5#) CIBP and set at +/- 4770' to abandon the Shannon perfs. POOH. RIH and dump 2 sx cement on CIBP. POOH.
14	PU and RIH with (2-7/8", 6.5#) CIBP and set at +/- 4350' to abandon the Sussex perfs. POOH. RD WL.
15	Run a CBL from 4875' to surface. Send CBL to engineer. Cement design may change based on results.
16	TIH with 1-1/4" tbg to 4350'. PT CIBP to 1000 psi. Establish circulation with biocide treated fresh water.
17	<u>RU Cementers. Pump Sussex Balance Plug:</u> 30 sx (46 cf) w/ Polyflake, 15.8 ppg & 1.53 cf/sk. Volume is based on 400' in 4-1/2" casing. Cement will be from 4350' – 3950'.
18	Slowly pull out of the cement while TOO to 3400'. Reverse circulate to ensure the tbg is clean. TOO and LD all 1-1/4" tbg.
19	RU WL. RIH and cut 4-1/2" casing at 860'. RD WL.
20	Circulate with fresh water containing biocide to remove any gas.
21	ND BOP. ND TH. Un-land casing using a casing spear, not a lifting sub. Rig max pull shall be 100,000#. Max pull over string weight shall be 50,000#. If unable to unland, contact Engineering.
22	Install BOP on casing head with 4-1/2", 10.5# pipe rams.
23	TOOH and LD all 4-1/2" casing. Remove 4-1/2" pipe rams and install 2-3/8" pipe rams.
24	TIH with 2-3/8" tbg to 960'. Establish circulation with biocide treated fresh water.
25	<u>RU Cementers. Pump Stub Plug:</u> Pump 10 bbls sodium silicate followed by 5 bbls fresh water spacer. 180 sxs (270 cf) 0.25 lb/sk Polyflake, 15.8 ppg & 1.50 cf/sk (311' in 7.88 bit size w/ 60% excess factor, 100' in 4-1/2" stub, and 200' in 8-5/8" surface casing with no excess). The plug will cover 960' – 349'. RD cementers.
26	Slowly pull out of the cement and PUH to 100'. Reverse Circulate using biocide treated fresh water, to ensure the tubing is clean.
27	WOC per cement company recommendation. TIH and tag cement. Cement top needs to be at or above 499' (50' above the surface casing shoe at 549'). Call Engineering if tag is lower than 499'. PU and TOO.
28	RU WL. RIH 8-5/8" 24# CIBP to 80'. RDMO WL and WO rig.
29	Instruct cementing and wireline contractors to e-mail copies of all job logs/job summaries to <a href="mailto:rsdJVendors@anadarko.com">rsdJVendors@anadarko.com</a> within 24 hours of completion of the job.
30	Supervisor submit paper copies of all invoices, logs, and reports to Evans Engineering Specialist.
31	Excavation crew to notify One Call to clear excavation area around wellhead and for flow lines.
32	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.
33	Excavate hole around surface casing enough to allow welder to cut casing a minimum 5' below ground level.
34	Welder cut casing minimum 5' below ground level.
35	Fill casing to surface using 4500 psi compressive strength cement (NO gravel).

- 36 Spot weld on steel marker plate. Marker should contain Well name, Well number, legal location (1/4 1/4 descriptor) and API number.
- 37 Obtain GPS location data as per COGCC Rule 215 and send to [rscDJVendors@anadarko.com](mailto:rscDJVendors@anadarko.com).
- 38 Properly abandon flow lines per Rule 1103. File electronic Form 42 once abandonment is complete.
- 39 Back fill hole with fill. Clean location, and level.
- 40 Submit Form 6 to COGCC ensuring to provide 'As performed' WBD identifying operations completed.