

UPRR 42 Pan Am AD 2: Nio cement remediation, drill out Nio plug, run CBL, replace  
WH & set Production Packer

API# 05 123 10046

Wins# 74561

Note: current planning indicates this work needs to be done in 1<sup>st</sup> Quarter 2016.

- 1 Niobrara cement remediation, drill out Niobrara plug, run CBL, replace WH & set production PKR.
- 2 A GYRO survey was run 5/11/2013. Another is not needed.
- 3 The most recent braidenhead report experienced 0 psi, and no liquids.
- 4 Call foreman and/or field coordinator 24 hours before rig up to isolate any production equipment (remove plunger, wellhead automation, etc.). Prepare to move base beam rig onto location. Install fence if needed. Operations needs to bleed off the bradenhead pressure before the rig gets on location.
- 5 Check and report surface casing pressure. If valve is not accessible at ground level, re-plumb so valve is at ground level.
- 6 MIRU slickline. RIH to retrieve production equipment and tag for fill (last cleanout occurred 9/14/2009 – “cleaned out with N2”). Note tagged depth in OpenWells. RDMO slickline.
- 7 MIRU WO rig. [Kill well as necessary with water and biocide](#). ND wellhead. NU BOP.
- 8 Unland 2-3/8” tbg and lay down landing joint.
- 9 MIRU EMI services. EMI 2-3/8” tbg while TOO H and tally while standing back. Do not exceed safety tensile load of 57,000 lbs. Lay down joints that have greater than 35% penetration or wall loss. Replace all joints that fail EMI testing. Document joint numbers and depth of bad tubing and create a Production Equipment Failure report in OpenWells. RDMO EMI services.
- 10 [PU scraper and RIH to 8160’ \(through the J Sand perfs\) for 4-1/2" 11.6 lb/ft casing. TOO H, SB 2-3/8’ tubing, and LD scraper.](#)
- 11 [Run and set RBP \(10,000 psi rated, casing 4.5”, 11.6#\) at +/- 7530’ \(collars are located at 7510’ and 7550’\).](#)
- 12 [Pick up 1 joint above RBP, and circulate all gas out of the hole. Pumping water with biocide, pressure test RBP and production casing to 1,000 psi for 15 minutes. If pressure test passes, place 2 sxs of sand over the RBP and proceed; otherwise contact engineering. TOO H and SB 2-3/8” tubing. LD retrieving head.](#)
- 13 [MIRU WL. PU and RIH with two 1' 3-1/8" perf guns with 3 spf, 0.50" EHD, 120° phasing. Shoot 1' of squeeze holes at 7380' and 6940'. RD WL.](#)
- 14 [RU 4-1/2" CICR and RIH on 2-3/8" tubing to set CICR at 6970'.](#)
- 15 [RU Cementers. Establish circulation through squeeze holes. Pump Niobrara suicide squeeze: 150 sxs \(256 cf\) 50/50 Poz “G” w/ 20% silica flour, 3% gel, 0.1% sodium metasilicate and 0.4% FL-52 mixed at 13.5 ppg and 1.71 cf/sx. Under-displace by 5 bbls and un-sting from CICR spotting 5 bbls cement on top of the squeeze holes. Cement will cover 7380’ – 6940’ on the back side. Volume is based on 440' in 10.0" OH from caliper with 20% excess, 750' in 4-1/2" production casing with no excess. RDMO cementers.](#)
- 16 [Slowly pull out of the cement and PUH to 6200' and reverse circulate tubing clean to ensure no cement is left in the tubing.](#)
- 17 [Using cement pump truck, displace 2 bbls cement into the upper SQ perf located at 6940’.](#)
- 18 [TOO H and SB 2-3/8" tubing.](#)
- 19 [WOC per cement company recommendation \(minimum of 18 hours\). PU and RIH with 3-7/8” bit \(csg drift dia = 3.875”\). Drill down to the CICR located at +/- 6970’. Pressure test to 1000 psi. If o.k., drill CICR and cement past lower perf located at 7380’, and pressure test to 1000 psi. POO H and SB 2-3/8” tubing. LD bit.](#)

The Nio needs cement coverage and the plug needs to be drilled out, need a CBL, WH needs replacing, and a production packer needs to be set.

TOC: 7405’ NB top: 7348’

No casing SQ holes. Casing P test is unknown.

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- 20 Run a CBL from +/- 7530' to 6400'. Forward results to [Tod.Haanes@Anadarko.com](mailto:Tod.Haanes@Anadarko.com) in Evans Engineering. RDMO wireline.
- 21 TIH with 2-3/8" tubing to the RBP.
- 22 Bleed off pressure and stack tubing on RBP so the top joint of tbg is below the BOP.
- 23 ND BOP.
- 24 ND existing tubing head off of 4.5" casing. Install new WHI 5,000 psi flanged tubing head complete with 5,000 psi casing valves and Double X Heavy nipples. Be sure all wellhead equipment is rated to 5,000 psi.
- 25 NU BOP.
- 26 Sting into tubing string. Circulate sand off the RBP. Latch onto and release RBP. TOOH standing back all 2-3/8" tubing and LD RBP.
- 27 MIRU hydrotester.
- 28 PU 2-3/8" NC, 2-3/8" XN nipple (be sure nipple is correctly input into OpenWells), 2-3/8" 4.7# J-55 tbg, Arrowset AS-1X packer rated to 10,000 psi, and 2-3/8" 4.7# J-55 tbg to surface. Hydrotest tubing to 6,000 psi while TIH. Set the packer below the new TOC (in good cement) between collars. Contact Tod Haanes in Evans Engineering for help in determining the PKR setting location. Land EOT at +/- 8098'.
- 29 Load 2-3/8" x 5-1/2" annulus with biocide treated water and pressure test to 1,000 psi for 15 minutes to be sure packer is set properly.
- 30 RU rig lubricator. Broach tubing to seating nipple. RD rig lubricator. ND BOP.
- 31 Install 7-1/16" x 5,000 psi flanged tubing head adaptor with new 5,000 psi flanged master valve with threaded 2-3/8" connection. Make sure all wellhead valves are rated to 5,000 psi.
- 32 Install 2-3/8" seating nipple above the master valve. Pressure test the tubing head from below the tubing head through the master valve to 5,000 psi using hydrotester.
- 33 RDMO WO rig. Return well to production team.
- 34 END OF SAFETY PREP STEPS. BELOW ARE STEPS FOR UN-PREPPING THE WELL
- 35 When notification is sent to un-prepare the well, MIRU WO rig. Kill well as necessary with water and biocide. ND wellhead. NU BOP.
- 36 Unland 2-3/8" tbg and lay down landing joint.
- 37 Release Arrowset AS-1X packer and TOOH standing back all 2-3/8" tubing and LD packer. Return packer to shop it was purchased from and have the packer redressed.
- 38 MIRU wireline truck. Tag top of fill, and enter depth in Open Wells. RDMO wireline truck.
- 39 PU 2-3/8" NC, 2-3/8" XN nipple (be sure nipple is correctly input into OpenWells), and 2-3/8" 4.7# J-55 tbg to surface. If a cleanout is not necessary, proceed to Step 40. Otherwise, clean out sand fill as deep as possible (J Sand perfs are located from 8128'-8158').
- 40 Land EOT at +/- 8,098'.
- 41 RU rig lubricator. Broach tubing to XN seating nipple. RD rig lubricator. ND BOP. NU WH.

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- 42 Install 7-1/16" x 5,000 psi tubing head adaptor and 5,000 psi flanged master valve. Make sure all casing valves are 5,000 psi rated w/ Double X Heavy nipples. Make sure all wellhead valves are rated to 5,000 psi.
- 43 Install 2-3/8" seating nipple above the master valve. Pressure test the tubing head from below the tubing head through the master valve to 5,000 psi using hydrotester. If wellhead does not pressure test, replace wellhead/wellhead valves as necessary with 5,000 psi rated equipment.
- 44 NU WH. RDMO WO rig. Return well to production team.

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