



HSR-Miller 1-26A – P&A

- 1 Gyro run 10/27/2014
- 2 Provide 48 hr notice to COGCC prior to rig up per request on approved Form 6. Submit Form 42 and call Automation Removal Group at least 24 hr prior to rig move. If not already completed, request that they catch and remove plunger, isolate production equipment and remove any automation equipment prior to the rig showing up. Install perimeter fence as needed.
- 3 Prepare location for base beam rig.
- 4 Check and record Bradenhead pressure. If Bradenhead valve is not accessible, re-plumb so that valve is above GL. Contact engineer if Bradenhead pressure is greater than 0 psi.
- 5 Spot 25 jts of 2-3/8" 4.7# J-55 tbg.
- 6 MIRU WO rig. Attempt to circulate and kill well with fresh water and biocide. If unable to circulate, load csg and tbg with water. ND WH, NU BOP.
- 7 PU tbg to break any possible sand bridges. Do not exceed 80% of tubing tensile strength, or 57,360 lb. LD landing jt. TOO H with 2-3/8" tbg and LD.
- 8 Notify cementers of the needed volumes: 30 sx of Thermal 35 cement with 0.5% CFR-2, 0.25% FMC mixed at 15.6 ppg and 1.51 cf/sk (Niobrara plug); 405 sx of 0:1:0 G with 0.5% CFR-2, 0.2% FMC, 0.5% LWA, and 0.25 pps polyflake mixed at 15.8 ppg and 1.15 cf/sk (Sussex suicide sqz); 170 sx of Type III cement with 0.3% CFL-3, 0.3% CFR-2, 0.25 pps polyflake and CaCl₂ mixed at 14.8 ppg and 1.33 cf/sk (FHM stub plug).
- 9 MIRU WL. RIH gauge ring for 4-1/2" 11.6# csg to 7680'.
- 10 RIH with 4-1/2" CIBP (4-1/2" 11.6#). Set CIBP at +/- 7660' (Collars at 7652' and 7696') and dump 2 sx of cement on top. Pressure test CIBP to 1000 psi for 15 minutes. If pressure test passes, RDMO WL.
- 11 RIH with 2-3/8" tbg while hydrotesting to 3000 psi to 7020' and circulate thoroughly to remove gas from hole.
- 12 MIRU cement company. Spot 30 sx of Thermal 35 cement with 0.5% CFR-2, 0.25% FMC mixed at 15.6 ppg and 1.51 cf/sk (cement from 7020' to 6600' in 4-1/2" csg).
- 13 PUH to 6400'. Circulate fresh water with biocide to clear tbg.
- 14 TOO H. Stand back 3990' of 2-3/8" tbg and LD remainder.
- 15 MIRU WL. PU and RIH with two perf guns and CCL inside 4-1/2" csg (3-1/8", 3 spf, "Big Hole" 0.6" EHD, 7" penetration, 120 deg phasing, 3' net, 6 total holes). Shoot 1' of bottom squeeze holes at 4830'. PUH to 3960' and shoot 2' of top squeeze holes. POOH, RDMO WL.
- 16 RIH with 4-1/2" CIBP (4-1/2" 11.6#) on 2-3/8" tbg and set at +/- 3990'. Establish circulation with fresh water and biocide. If unable to circulate, contact Evans Engineering.
- 17 MIRU cement company. Pump 5 bbls fresh water, 20 bbls sodium metasilicate, and 5 bbls fresh water followed with 405 sx of 0:1:0 G with 0.5% CFR-2, 0.2% FMC, 0.5% LWA, and 0.25 pps polyflake mixed at 15.8 ppg and 1.15 cf/sk into squeeze holes (cement from 50' below base of

Engineer: Daniel Notary 303-913-2592

TOC: 6530'

FHM Base 890'; Sussex top 4162'; Shannon Base 4775'; Niobrara Top 7011'

No Stips,

Well has Bradenhead pressure

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- Shannon to 200' above top of Sussex, 9.25" avg open hole from caliper, adding 20% excess).
Under displace by 3 bbls, sting out of CICR and dump remaining cement on CICR.
- 18 PUH to 3700' and circulate fresh water with biocide to clear tbg.
 - 19 TOOH. Stand back 1090' of 2-3/8" tbg and LD remainder.
 - 20 MIRU WL. PU jet cutter and RIH to 990', cut 4-1/2" csg. Circulate to remove any gas from wellbore. RDMO WL.
 - 21 ND BOP, ND tbg head. NU BOP on surface csg with 4-1/2" pipe rams. Install 3000 psi ball valves on csg head outlets. Install choke or choke manifold on one outlet.
 - 22 TOOH with 4-1/2" csg and LD.
 - 23 Uninstall 4-1/2" pipe rams on BOP and install 2-3/8" pipe rams.
 - 24 TIH with 2-3/8" tbg to +/- 1090', 100' inside 4-1/2" csg stub.
 - 25 MIRU cement company. Establish circulation with fresh water and biocide and get bottoms up. Pump 10 bbls SAPP, 20 bbls fresh water and biocide followed with 170 sx of Type III cement with 0.3% CFL-3, 0.3% CFR-2, 0.25 pps polyflake and CaCl₂ mixed at 14.8 ppg and 1.33 cf/sk (cement from 1090' to 570' over Fox Hills, assume 9.25" avg hole from SX caliper, adding 40% excess).
 - 26 TOOH with 2-3/8" tbg. WOC 4 hrs, tag plug. Tag needs to be 670' or higher. TOOH.
 - 27 MIRU WL. RIH with 8-5/8" CIBP and set at 80'. Pressure test to 1000 psi for 15 min. If pressure holds, RDMO WL and RDMO WO rig.
 - 28 Instruct cementing and wireline contractors to e-mail copies of all job logs/job summaries and invoices to rscDJVendors@anadarko.com within 24 hrs of the completion of the job.
 - 29 Supervisor submit paper copies of all invoices, logs, and reports to Evans Engineering Specialist.
 - 30 Excavation crew to notify One Call to clear excavation area around wellhead and for flowlines.
 - 31 Excavate hole around surface casing enough to allow welder to cut 8-5/8" casing minimum 5' below ground level.
 - 32 Welder cut 8-5/8" casing minimum 5' below ground level.
 - 33 MIRU Redi Cement mixer. Use 4500 psi compressive strength cement, (NO gravel) to fill stubout.
 - 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.
 - 36 Obtain GPS location data as per COGCC Rule 215 and send to rscDJVendors@anadarko.com.
 - 37 Back fill hole with fill. Clean location, level.
 - 38 Submit Form 6 to COGCC ensuring to provide 'As performed' WBD identifying operations completed.

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