Anadarko Petroleum Corporation

Hale 21-13 – Bradenhead Procedure

1 Call Foreman or Lead Operator 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.
2 MIRU Slick line. Fish plunger if necessary and tag for PBTD (should be at 7415').
3 Prepare location for base beam rig.
4 Spot 12 jts of 2-3/8" 4.7# J-55 8RD EUE tbg.
5 Spot 77 jts of 1-1/4" 2.33# J-55 IJ tbg.
6 MIRU WO rig. Kill well with fresh water with biocide. ND wellhead, NU BOPs.
7 Run two 2" or one 3" line(s) from starting head to return tanks
8 PU 8-10' landing joint with TIW safety valve on top and screw into the tbg hanger. Back out the lock down pins and pull up on the tbg string to break any possible sand bridges. Do not exceed 80% of tubing tensile strength, or 57,384-lb.
9 Unseat tbg hanger and LD tbg hanger and landing joint. Install rubber wiper in stripping head.
10 MIRU EMI equipment. TOOH with 2-3/8" tbg. EMI tbg while TOOH. Lay down joints with wall loss or penetrations >35%. Replace joints as necessary. Keep yellow and blue band tubing. Note joint number and depth of tubing leak(s) on production equipment failure report in OpenWells. Clearly mark all junk (red band) tubing sent to yard.
11 PU and TIH with 2-3/8" tbg and 4.5" RBP (4.5" 11.6# I-80). Set RBP at +/- 7050' (Collars at 7030' and 7076').
12 Pressure test RBP to 5,000 psi for 15 minutes. (Pressure test to make sure plug is set correctly)
13 Spot 2sx sand on top of RBP. TOOH, SB tbg.
14 ND BOP, ND tubing head.Un land 4-1/2" 11.6# I-80 csg, NU double-entry flange. NU BOP.
15 TIH with 77 jts of 1-1/4" 2.33# J55 tbg to +/- 2300'. If 2300' cannot be reached, get as far below 1500' as possible before circulating (Want to try and get as much hydrostatic on top of existing cement as possible).
16 MIRU mud company with 10.0 ppg drilling mud. Circulate at least 1x annular volume (~95 bbls).
17 TOOH with 27 jts of 1-1/4" 2.33# J55 to +/- 1500'.
18 MIRU Cement company. Commence pumping cement job at maximum rate achievable consisting of 5 bbl fresh water; 44 bbl (165 sx) of Type III cement mixed at 14.0 ppg and 1.53 cuft/sk. Cement should be blended for a 3 hour pump time (Cement from 1500' to 710'). Have cementer email cement job plot to engineer and rscDJVendors@anadarko.com within 24 hours of job completion.
19 TOOH with 1-1/4" 2.33# and LD.
20 Break lines and clean up with fresh water. RMDO cement company.
21 ND BOP, ND dual entry flange. Re-land 4-1/2" 11.6# csg with 20,500 lb tension (3,000-lb over string weight from 1500'),NU BOP.
22 Leave well shut in for minimum of 24 hours.
23 MIRU wire line and run CCL-GR-CBL-VDL from 1600' to 100'. If cement is not above 710', contact engineering for further instructions. Have wireline operator email copy of CBL to engineer and rscDJVendors@anadarko.com within 24 hours of job completion. RDMO wire line.

24 TIH with 2-3/8" XN SN and 2-3/8" 4.7# J55 EUE tbg. Land tbg @ +/- 7374' (1 jt above top J-Sand perf). Broach tbg to XN nipple.

25 ND BOP, NU master valve.

26 Install 7 1/16" x 5,000 psi tubing head adaptor with new 5,000 psi master valve threaded 2 3/8" connection. Make sure all wellhead valves are rated to 5,000 psi.

27 Pressure test the tubing head from below the tubing head through the master valve to 5,000 psi with hydro tester. NU 5,000 psi wellhead. If existing wellhead is not 5,000 psi rated, install one that is.

28 RMDO WO rig. Return well to production team.

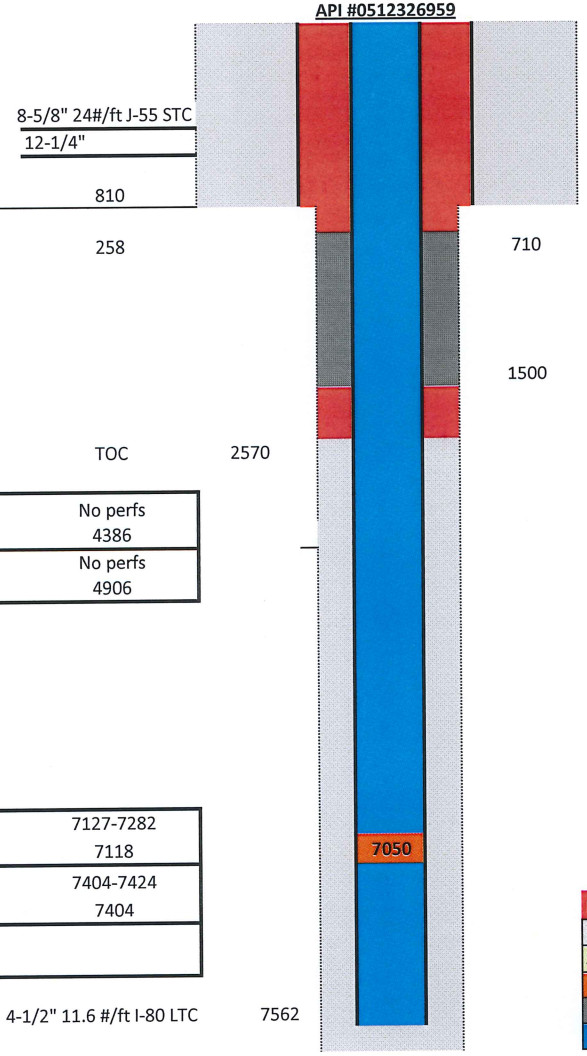
29 Clean location and swab well back to production. Notify field foreman/field coordinator of finished work and turn well back over to production team.

Existing

KB=10'

Hale 21-13

API #0512326959



Sussex	No perfs
Top	4386
Shannon	No perfs
Base	4906

Niobrara	7127-7282
Top	7118
Codell	7404-7424
Top	7404

Type III **Sh/Sx Cement**

Wellbore Diamater (in)	8.25
Hole/Csg Capacity (ft3/ft)	0.26
Cement Coverage Height (ft)	790
Cement Volume (ft3)	206
20% Excess (ft3)	247
Cement Vol (bbl)	44
Sx	162
Circ Volume (bbl)	93