

Zadel 33-34 – 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 7377').
- 3 This well has no directional survey or gyro. A gyro survey will need to be run before proceeding with any work.
- 4 Prepare location for base beam rig.
- 5 Spot 25 jts of 2-3/8" 4.7# J-55 8RD EUE tbg.
- 6 Spot 50 jts of 1-1/4" 2.33# tbg
- 7 Spot tank for 10.0 ppg drilling mud
- 8 MIRU WO rig. Kill well with fresh water with biocide. ND wellhead, NU BOPs.
- 9 Run two 2" lines from starting head to return tanks.
- 10 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.
- 11 Unseat tbg hanger and LD tbg hanger and landing joint. Install rubber wiper in stripping head.
- 12 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.
- 13 TIH with 2-3/8" tbg and 4.5" RBP (4.5" 11.6# I-80). Set RBP at +/- 6900' (Collars at 6880' and 6922'). Spot 2 sx sand on top of RBP.
- 14 Pressure test RBP to 1,000 psi for 15 minutes. (Pressure test to make sure plug is set correctly)
- 15 ND BOP, un-land 4-1/2" csg, NU dual entry flange, NU BOP.
- 16 TIH with 50 jts of 1-1/4" 2.33# tbg to 1500'. Circulate at least 50 bbls 10.0 ppg drilling mud (1x annular volume from 1500').
- 17 MIRU Cement company.
- 18 Commence pumping cement job consisting 5 bbl fresh water, 20 bbl sodium meta silicate and 5 bbl fresh water; 57 bbl (240 sx) of Type III and 1/4 lb/sk cello-flake mixed at 14.8 ppg and 1.33 cuft/sk blended for a 3 hour pump time (Cement from 1500' to 696').
- 19 Break lines and clean up with fresh water. RMDO cement company.
- 20 TOOH with 1-1/4" tbg, LD tbg.
- 21 ND BOP, ND dual entry flange, re-land 4-1/2" csg, NU BOP.
- 22 Leave well shut in overnight.
- 23 Circulate gas out of hole with fresh water with biocide.
- 24 MIRU wire line and run CCL-GR-CBL-VDL-Sector map from 1600' to 100'. If cement is not above 696', contact engineering for further instructions. RDMO wire line.
- 25 TIH with 2 3/8" tbg and retrieving head and tag sand above RBP at +/- 6900'. Circulate sand off RBP. Latch onto RBP and release RBP. TOOH standing back all 2 3/8" tbg and LD RBP.
- 26 TIH with 2-3/8" XN SN, 246 jts 2-3/8" 4.7# tbg. Hydro test tbg while TIH. Clean out to PBMD @ 7377. TOOH 6 jts.



- 27 Land tbg @ +/- 7208' (1 jt above top Codell perf). Broach tbg to XN nipple.
- 28 ND BOP, NU master valve and hydrotest tubing head to 5,000 psi for 15 minutes.
- 29 RMDO WO rig.
- 30 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'
Zadel 33-34
API #0512323541

8-5/8" 24#/ft J-55 STC
12-1/4"

Surface casing

796

Fox Hills Base

450

696

1500

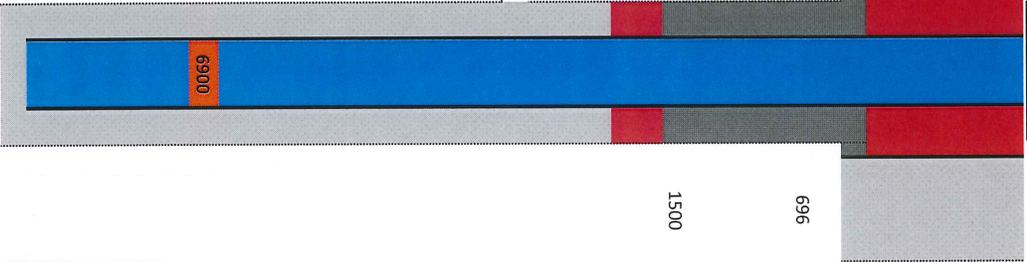
TOC 3680

Sussex Top	No perfs	4080
Shannon Base	No perfs	BHP

Niobrara	6960-7104
Top	6952
Codell	7238-7258
Top	7234

4-1/2" 11.6#/ft L-80 LTC

7390



Mud
Existing cement
Sand Plug
RBP
New Cement
Fresh Water w/ Bio

Type III

Sh/Sx Cement	Sh/Sx Cement
Wellbore Diameter (in)	9.00
Hole/Csg Capacity (ft ³ /ft)	0.33
Cement Coverage Height (ft)	804
Cement Volume (ft ³)	266
20% Excess (ft ³)	320
Cement Vol (bbl)	57
Sx	240
Circ Volume (bbl)	47