

## BELLA 19-8 - Bradenhead

- 1 NOTE: Gyro survey not required (APC well drilled after 2007)
- 2 Level location for base beam rig.
- 3 Call Foreman or Field Coordinator before rig up to catch plunger, isolate production equipment, and ask if replacement parts/equipment are requested. Operations need to hook up the Bradenhead pressure and bleed off the pressure before the rig gets on location.
- 4 Check and report surface casing pressure. If surface casing is not accessible at ground level, re-plumb so valve is at ground level.
- 5 Spot a minimum of 25 jts 2-3/8", 6.5#, J-55 EUE TBG for replacement and 135 jts 1-1/4", 2.33#/ft, J-55 10rd IJ for annular cement job.
- 6 MIRU slickline. Fish production equipment as necessary and tag fill. Note tagged depth in OpenWells. Last cleanout depth was 7989' on 4/27/2010 (Bottom Codell perf: 7446'). RDMO slickline.
- 7 MIRU WO rig, flat tank, and pump. Blow surface casing down to tank and load surface casing with biocide treated fresh water. Kill well, as necessary, with biocide treated fresh water. ND WH. NU BOPE.
- 8 Unseat landing joint and lay down.
- 9 MIRU EMI services (last EMI date: never EMI'd). TOO H with 2-3/8" TBG. EMI on TOO H. LD joints with wall loss or penetrations > 35%. Replace joints as necessary. \*\*Keep yellow & blue band tubing. Note joint number and depth of tubing leak(s) on PRODUCTION EQUIPMENT FAILURE REPORT IN OPEN WELLS.
- 10 TIH with 2-3/8" TBG & RBP suitable for 4.5", 11.6#, I-80 casing. Set RBP at 3270'. (Collars at 3258' & 3302').
- 11 Circulate gas out of well and pressure test RBP & CSG to 2000 psi for 15 min. Dump 2 sx sand on top of RBP & TOO H while standing back TBG.
- 12 MIRU WL services. TIH w/chemical cutter to +/- 550' (inside of surface casing). Cut 4-1/2" CSG at +/-550' and TOO H with wireline tools. Standby wireline.
- 13 TOO H & SB 4-1/2" CSG.
- 14 PU & TIH w/overshot and 4-1/2" CSG & latch on to 4-1/2" CSG at +/- 550'.
- 15 PU & TIH on wireline with freepoint tool and determine if CSG is free at +/- 1064'. TOO H with freepoint tools.
- 16 PU & TIH with string shot and shoot at coupling at +/- 1056'. TOO H with wireline tools and RDMO WL.
- 17 TOO H & SB 4-1/2" CSG.
- 18 PU & RIH with skirted sub, ported collar, and 4-1/2" CSG and thread back into backed off casing coupling at +/- 1056'.
- 19 PU & TIH with shifting tool and 2-3/8" TBG to ported collar above casing coupling at +/-1056'. Open ported collar.
- 20 MIRU cement services. Establish injection rate with biocide treated water through ported collar at +/- 1056'. Mix and pump cement job as follows: Freshwater spacer, 20 bbls Sodium

Well needs Bradenhead work completed

Well is to be worked in for APC EISENACH 8-8HZ pad

Well does not require a gyro survey

Nio top: 7158'; TOC: 1060'

NPV: \$201M; No known casing issues

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Metasilicate, 175 sx 15.8 ppg neat Class G cement with ¼#/sx cello-flake. (Attempt to cement from 1064' to 593').

- 21 Displace to end of tubing. Close ported collar and TIH with 4 joints 2-3/8" TBG. Reverse circulate 2 times the tubing volume or until returns clean up.
- 22 Trip out of the hole with tubing and shut in overnight.
- 23 Rig down cementing services.
- 24 MIRU wireline services.
- 25 PU and RIH with CCL-GR-CBL-VDL. Run from 1150' to surface, or the top of cement. RDMO wireline. If the cement is not above 593' then contact engineer.
- 26 PU and TIH with 2-3/8" TBG & retrieving head. Circulate sand off RBP, latch RBP and TOOH standing back TBG & laying down retrieving head and RBP.
- 27 If clean out is not necessary, skip to the next step. PU and TIH with bailer (hydrostatic or bulldog) and clean out to at least 7989'. (Bottom Codell perf at 7446') TOOH and SB 2-3/8" TBG & LD bailer.
- 28 PU and TIH with NC, XN profile nipple, and 2-3/8" TBG and land well at 7398', which is approximately 1 joint above the top Codell perf.
- 29 RU rig lubricator. Broach tubing to XN nipple. RD rig lubricator.
- 30 ND BOPE. NU WH. RDMO WO Rig.
- 31 Clean location and swab if necessary. Notify Foreman or Field Coordinator of completed workover operations and turn well over to production team.

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