

## Bulthaup 21-6

- 1 Level location for base beam equipped rig.
- 2 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 through hardline to a tank and bleed off the pressure before the rig gets on location.
- 3 Check and report surface casing pressure prior to bleeding off. If surface casing is not accessible at ground level, re-plumb so valve is at ground level.
- 4 If the tubinghead is not rated to 5000 psi then replace the wellhead and all the valves and fittings to make the tubinghead good to 5000 psi.
- 5 Spot a minimum of **24** jts of 2-3/8", 4.7#, J-55, EUE for replacement and 135 jts 1-1/4", 2.33#/ft, J-55, 10rd IJ for annular cement job.
- 6 MIRU WO rig. Kill well, as necessary, with freshwater treated with biocide. ND wellhead. NU BOP.
- 7 PUH with tubing string to break any possible sand bridges, unseat landing joint and lay down. Do not exceed tubing tensile strength of 57,384 lbs.
- 8 MIRU "EMI". TOO H with 2-3/8" tubing. EMI tubing while TOO H. Lay down 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. Clearly mark all junk (red band) tubing sent to the yard.
- 9 TIH with 2-3/8" tbg and 4.5" RBP (**4.5" csg 11.6# I-80**). Set RBP @ **+/-7270'**, (collars are at **±7250'** and **7294'**) Pressure test the RBP and casing to 5000 psi for 15 min. Spot 2 sx of sand on top of RBP and trip out of the hole.
- 10 Bleed off pressure. ND BOP's. ND wellhead. Un-land 4 1/2" casing string. NU double entry flange. NU BOP.
- 11 PU 1-1/4" 2.33#/ft J-55 10rd IJ tubing, and TIH outside 4-1/2" casing in open hole to **±3630'** (Existing TOC is 3690'). Circulate with freshwater treated with biocide to clean up annulus while TIH.
- 12 MIRU cement services and water truck containing fresh water for cementing. Circulate on bottom with freshwater treated with biocide until returns clean up with rig pump.
- 13 Rig up cement trucks.
- 14 Pump **200** Bbls of drilling mud followed with 5 Bbls freshwater and cement job consisting of 20 Bbls Sodium Metasilicate followed by **445** sx 15.8 ppg neat Class G cement with 1/4 #/sx cello-flake. The cement to be retarded for 125 degree Fahrenheit for six hour pump time.
- 15 TOH with **35** stands to **1460'** and reverse circulate 2 times the tubing volume with drilling mud or until the cement cleans up.
- 16 Rig down cementing company.
- 17 Trip out of the hole with 1-1/4" tubing.
- 18 ND BOP. ND double entry flange and crossover. Pick up and land 4-1/2" casing in slips. NU tubing head. NU BOP SDFN to WOC.
- 19 MIRU wireline services.
- 20 PU and RIH with CCL-GR-CBL-VDL. Run from **3830'** to **1800'** or the top of cement, to verify cement coverage. Notify the Engineer of the top of cement. RDMO wireline.

- 21 PU and TIH with 2-3/8" tbg and retrieving head. Circulate sand off RBP at @ **+/-7270'**.  
TOOH with RBP and standing back tubing.
  - 22 Bail if needed.
  - 23 TIH 2-3/8" NC, 2-3/8" SN and 2-3/8" 4.7# J-55 EUE 8rd tubing. Land tubing at +/- **7710'**  
or 1 joint above the top **Codell perforation (7728' - 7748')**.
  - 24 Broach tubing to seating nipple. ND BOPs. NU master valve and tubing head adaptor  
and install 3' pup joint above master valve. Hydrotest tubinghead assembly to 3000 psi  
for 15 mins. RDMO WO Rig.
  - 25 RDMO WO Rig.
  - 26 Clean location and swab well back to production, if necessary. Notify Foreman/Field  
Coordinator of finished work and turn well over to production team.
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