

## KERN 13-4-5Y

- 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 pressure a bleed off the pressure before the rig gets on location.
- 3 Check and report surface casing pressure. If surface casing is not accessible at ground level, re-plumb so valve is at ground level.
- 4 If the wellhead is not 5000 psi then replace the wellhead and all the valve and fitting to make the wellhead good to 5000 psi.
- 5 Spot a minimum of 12 jts of 2-3/8", 4.7#, J-55, EUE tbg for replacement and 160 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 and biocide. ND wellhead. NU BOP.
- 7 MIRU slickline. Fish plunger if necessary and tag for PBTD (should be at 7264'). RDMO slickline.
- 8 PUH with tubing string to break any possible sand bridges, unseat landing joint and lay down. Do not exceed a tensile stress of 57,384 lbs.
- 9 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.
- 10 TIH with 2-3/8" tbg and 4.5" RBP and packer (4.5" csg 11.6#, I-80). Set RBP @ +/- 6510', (collars are at 6490' and 6532+'). Pressure test the RBP and casing to 2000 psi. spot 2 sx of sand on top of RBP and trip out of the hole with Packer.
- 11 ND BOP's. ND wellhead. Un-land 4 1/2" casing string. NU double entry flange.
- 12 PU 1-1/4" 2.3#/ft J-55 10rd IJ tubing, and TIH outside 4-1/2" casing and open hole to 4705' (base of Sussex is 4505' and the top of Sussex is 4234'). Circulate with freshwater and biocide to clean up annulus while TIH.
- 13 MIRU cement services and water truck. Circulate with freshwater and biocide until returns clean up with rig pump.
- 14 Rig up cement trucks.
- 15 Pump 275 Bbls of drilling mud followed with freshwater and cement job consisting of 20 Bbls Sodium Metasilicate and then 250 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.
- 16 TOH with 28 stands to 2969' and reverse circulate 2 times the tubing volume drilling mud or until the cement cleans up.
- 17 Rig down cementing company.
- 18 Trip out of the hole with tubing and shut in overnight.
- 19 Rig up wireline truck and run a CCL-GR-CBL-VDL from 4800' to 4034' or the top of cement. If cement isn't above 4034 then get with the Engineer on further cement work.
- 20 Trip in the hole with 1-1/4" 2.3 #/ft J-55 10rd IJ so the end of tubing is at 1050'.
- 21 Rig up cementing company and circulate clean freshwater with biocide to surface.
- 22 Pump annular cement job balance plug consisting of 200 sx 15.8 PPG neat Class G

cement with ¼ #/sx cello-flake.

- 23 Trip out of the hole with 24 joints of tubing. Reverse circulate the tubing clean with drilling mud. Trip out of the hole laying down the remainder of the tubing.
  - 24 Land 4-1/2" casing. ND double entry flange and crossover. NU wellhead. SDFN to WOC.
  - 25 Shut the well in overnight.
  - 26 MIRU wireline services.
  - 27 PU and RIH with CCL-GR-CBL-VDL. Run from 1100' to surface, to verify cement coverage. Notify the Engineer of the top of cement. RDMO wireline.
  - 28 Trip in the hole with 1-1/4" 2.3#/ft J-55 tubing. Trip out of the hole with the 1-1/4" tubing laying down the tubing. Make sure the tread protectors are installed.
  - 29 PU and TIH with 2-3/8" tbg and retrieving head. Circulate sand off RBP at @ +/-6510'. TOOH with RBP and standing back tubing.
  - 30 Bail if the need be.
  - 31 TIH 2-3/8" NC, 2-3/8" SN, and 2-3/8" 6.5# J-55 EUE 8rd tubing. Land tubing at +/- 7270' or 1 joint above the top Codell (7300-7316).
  - 32 Broach tubing to seating nipple. ND BOPs. NU wellhead. RDMO WO Rig.
  - 33 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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