FRANK 13-6 Cement Job Below Surface

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 Spot a minimum of **10** 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.
5 MIRU WO rig. Kill well, as necessary, with freshwater and biocide. ND wellhead. NU BOP.
6 MIRU slickline. Fish plunger if necessary and tag for PBMD (should be at 8498'). RDMO slickline.
7 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.
8 MIRU "EMI". TOOH with 2-3/8" tubing. EMI tubing while TOOH. 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.
9 TIH with 2-3/8" tbg and 4.5" RBP (4.5" csg 11.6# I-80). Set RBP @ +/-**4990'**, (collars are at **4964'** and **5006'**). Pressure test the RBP and casing to **2000** psi. Circulate 2 sx of sand on top of RBP and trip out of the hole
10 ND BOP's and nipple up tubing head adapter with new **5000** psi master valve with 2-3/8" 8RD threaded connection. Make sure that all casing valves are good to **5000** psi and if not change out with new casing valves.
11 Pressure test casing and tubing head to **5000** psi using hydrotester for 15 min.
12 If pressure test unsuccessful, call Evans office for alternate procedures.
13 ND wellhead. Un-land 4 ½" casing string. NU double entry flange.
14 PU 1-1/4" 2.3#/ft J-55 10rd IJ tubing, and TIH outside 4-1/2" casing and open hole to **2000**'. Circulate with freshwater and biocide to clean up annulus while TIH.
15 Rig up cement truck and pump **150** Bbls of drilling mud followed with freshwater spacer and cement job consisting of **300** sacks of**Type III w/ CaCl2 as deemed necessary. Mixed at 14.0ppg and 1.53cuft/sk.** The cement to be retarded for 125 degree Fahrenheit for six hour pump time. (Attempt to cement from **2030'** to **908'**).
16 TOH with **19** stands and stand back in derrick to end of tubing at **+-840'** and reverse circulate 2 times the tubing volume or until the water cleans up
17 Trip out of the hole with tubing and shut in overnight.
18 Rig down cementing company.
19 MIRU wireline services.
20 PU and RIH with CCL-GR-CBL-VDL. Run from **2050**' to **908'**, or the top of cement. RDMO wireline. If the cement is not above **908'** then contact Engineer.
21 ND TBG head adapter and master valve. NU BOP
22 PU and TIH with 2-3/8" tbg and retrieving head. Circulate sand off RBP at @ **+/-4990'.** TOOH standing back tubing.

23 Bail if the need be.
24 TIH 2-3/8" NC, 2-3/8" SN, and 2-3/8" 4.7# J-55 EUE 8rd tubing. Land tubing at **+/-7970'** or 1 joint above the top **J-Sand** perforation (**8002'-8020'**).
25 Broach tubing to seating nipple.
26 ND BOPE. NU WH. Ensure all valves on TBG head are rated to 5000 psi and ensure new TBG head has a new R-46 ring gasket installed. Install a 2' double XX nipple above the master valve.
27 MIRU hydrotester and test through master valve to 5000 psi for 15 min.
28 RDMO hydrotester.
29 RDMO WO Rig
30 Broach tubing to seating nipple. RDMO WO Rig.
31 Clean location and swab well back to production, if necessary. Notify Foreman/Field Coordinator of finished work and turn well over to production team.