

RADEMACHER THEO J UT #1

- 1 Call Foreman or Field Coordinator before rig up to isolate production equipment. Catch & remove plunger. Enter plunger into PLUNGER DATABASE. Call 24 hours prior to the rig moving onto location so that any automation equipment can be removed prior to the rig showing up. Have fence installed if needed.
- 2 MIRU Cable, Inc. PU & RIH w. gyro tool to 7500'. POOH. RDMO Cable, Inc. Forward Gyro to Sabrina Frantz (Sabrina.Frantz@Anadarko.com)
- 3 Provide 48 hour notice of MIRU to Mike Hickey (970-302-1024) via email at Mike.Hickey@state.co.us.
- 4 Level location for base beam rig to move onto.
- 5 MIRU base beam WO Rig. ND WH and NU BOP stack on top of tubing head.
- 6 Place cement services on "will call" when rig moves on location to rig up.
- 7 Kill well using water w/ biocide.
- 8 Reciprocate tubing to break any possible sand bridges. Do not exceed safety tensile load of 57K lbs.
- 9 MIRU pipe inspectors.
- 10 EMI tubing while TOO H and stand back good joints. Mark as junk any joints with wall loss or penetrations > 35%. Note joint number and depth of bad tubing and create Production Equipment Failure Report in Open Wells. Order additional tubing as needed from A&W pipe yard, use Blue and Yellow banded inspected joints from yard if available.
- 11 RDMO pipe inspectors.
- 12 MIRU e-line services.
- 13 RIH with gauge ring on e-line to 7,600' (3.875 drift in 4.5" 11.6# casing). TOO H with gauge ring.
- 14 PU and RIH with CIBP for 4.5" 11.6# K-55 csg. Set CIBP at 7559'. Dump bail 2 sx on top of CIBP to isolate J-Sand perforations. (Make multiple runs in necessary). POOH. Pressure test plug to 1,000 psi. Load hole w/ 9+ ppg mud.
- 15 PU and RIH w/ CCL-GR-CBL-VDL. (Note: Correlate to Go International GR log dated 10/3/73.) Run from 7600' to surface, verify cement coverage. POOH.
- 16 PU and RIH with CCL & 3-1/8" perf gun and perforate casing at 7,400' (100' above TOC) with 3 spf, 0.38" EHD, 33.65" penetration, 120 deg phasing, 1' net, 3 shots total.
- 17 POOH with CCL and perf guns and RDMO e-line services.
- 18 PU and RIH w/ 4.5" CICR on setting tool and 2 3/8" tubing to set CICR at 6,563' in 4-1/2" casing. Set CICR and establish circulation through squeeze holes at 7,400 and out of surface casing valve. Note returns in Open Wells report. Test tubing prior to pumping cement job.
- 19 MIRU cement services.
- 20 Mix and pump 475 sks cement consisting of 15.8 ppg, 1.15 cf/sk, Class G, with 35% silica flour and 0.2 R-3, cement slurry from 7,400' to 6,563' (Slurry volume includes 25% excess). Pump 97 bbl cement, displace w/ 22 bbl of mud. Note returns during cement job in Open Wells report.
- 21 RDMO cement services.

- 22 PUH 10 joints to 6,263' (300' above estimated top of cement) with 2-3/8" tubing and reverse circulate with 50 bbl drilling mud weighing at least 9 ppg and treated with biocide until no cement returns to surface, plus 20 bbls. Load hole w/ mud.
- 23 TOOH with 2-3/8" tubing. Wait on cement at least 4 hours.
- 24 ND BOP's and tubing head. Unland 4-1/2" 10.5# K-55 STC casing from slips and work casing. Stack out and relax casing. PU on casing and measure stretch to calculate free pipe. If less than 4,840' cut above that point. NU BOP's on casing head.
- 25 MIRU e-line services. PU and RIH with jet cutter to 4,840', cut in the middle of joint below 4,840'. Cut casing. RDMO e-line services.
- 26 PU w/ 4.5" casing. Pump 500 bbl of used drilling mud at least 9 ppg and treated with biocide to circulate out gas.
- 27 TOOH with 4.5" casing. LD casing.
- 28 PU and TIH w/ 2 3/8" tubing to 4,890' (50' inside casing stub).
- 29 Pump 20 bbls Sodium Metasilicate ahead of cement.
- 30 MIRU cement services.
- 31 Mix and pump 600 sks cement consisting of 15.8 ppg, 1.15 cf/sk, Class G, with 1/4#/sk cello-flake cement slurry from 4,890' to 3,897' (Slurry volume includes 26% excess). Pump 123 bbl of cement, displace 14 bbl of drilling mud. Note returns during cement job in Open Wells report.
- 32 PUH 40 joints to 3,640' (300' above estimated top of cement) with 2-3/8" tubing and circulate with 240 bbl drilling mud weighing at least 9 ppg and treated with biocide until no cement returns to surface, plus 20 bbls.
- 33 Standby cement services.
- 34 TOOH with 2-3/8" tubing. Wait on cement at least 4 hours.
- 35 PU 2-3/8" tubing, TIH to 3897', tag plug if less than 4047' contact engineer to discuss plugging modifications.
- 36 PUH w/ 2-3/8" tubing to 483'.
- 37 MIRU cementing services.
- 38 Mix and pump 225 sks cement consisting of 15.8 ppg, 1.15 cf/sk, Class G, with 2% CaCl (as needed), cement slurry from 527' to surface' (Slurry volume includes 23% excess). Note returns during cement job in Open Wells report.
- 39 Standby cement services.
- 40 TOOH with 2-3/8" tubing. WOC min 4 hours. TIH w/ tbg & tag cement. If cement is at or above 131' ND BOP. RDMO cement services.
- 41 RDMO cementing services.
- 42 RDMO WO rig.
- 43 POST RIG ACTIVITES
- 44 Well site supervisor turn all paper copies of cementing reports/invoices and logs in to the APC engineer who wrote the prog. (NOTE: During the job, wellsite supervisor should instruct the logging and cementing contractors to e-mail all logs, job reports/invoices to the APC engineer who wrote the prog.)
- 45 Have excavation contractor notify One-Call to clear for digging around wellhead and flowline removal.
- 46 Check top of cement inside 8-5/8" surface casing. If cement is not of sufficient height (less than 25' below ground level), place redi-mix cementer on will call.

- 47 Excavate hole around surface casing of sufficient size and depth to allow welder to cut off 8-5/8" surface casing at least 5' below ground level.
- 48 Have welder cut off 8-5/8" surface casing at least 5' below ground level.
- 49 If needed, MIRU ready cement mixer. Use 4,500 psi compressive strength redi-mix cement (sand and cement only, no gravel) to finish filling surface casing to top of cut off.
- 50 Have welder weld on steel plate. (Note: marker shall be labeled with legal location, well name and number, and API Number.)
- 51 Properly abandon flowlines as per Rule 1103.
- 52 Have excavation contractor back fill hole with native material. Clean up location and have leveled to plant any vegetation required.
- 53 Submit Form 6 to COGCC. Provide "As Plugged" wellbore diagram identifying the specific plugging completed.