

Procedure

1. MIRU workover rig and work tank. RU safety equipment to monitor H₂S (H₂S found on well when casing inspection log was run on 4/14/98). Bled off any pressure. If necessary, kill well. Unload, rack, and tally \pm 11,160' (360 jts) of 2-7/8" N-80 used inspected tubing.
2. ND wellhead. NU BOP.
3. Locate casing leak.
 - A. PU and TIH with packer and 2-7/8" tubing to 3035'. Pressure test tubing and CIBP to 1000 psi. If CIBP does not hold, continue to TIH until CIBP will pressure test.
set @ 10,700'
 - B. TOH and start to locate casing leak. From casing inspection log, holes are expected at 2874' and potentially at 2955'.
 - C. TOH and LD packer.
4. RU Halliburton for cement squeeze.
 - A. PU and TIH with 5-1/2" cement retainer, stinger, and 2-7/8" tubing. Set CIBP 50' above casing leak. Sting out of retainer. Circulate hole with 2% KCl water. Sting into retainer. Pressure test backside to 500 psi to check if CIBP is set.
 - B. Mix and displace 200 sx Premium cement to leak at 2874' with 2% KCl water.
 - C. Slow rate to 0.5 to 1.0 bpm to attempt a running squeeze. Squeeze to a maximum pressure of 2000 psi.
 - D. If squeeze is not obtained within the first 45 bbls, perform a hesitation squeeze at 0.25 – 0.5 bpm at 5 min intervals.
 - E. If squeeze is not attained, over flush retainer with 2% KCl water. Sting out retainer and reverse circulate hole clean. Consult with Midland for additional squeeze procedure.
5. TOH and LD stinger. Wait on cement overnight.
6. PU and TIH with 4-1/2" bit, 5-1/2" scraper, and six 3-1/2" drill collars on 2-7/8" tubing. Drill out CIBP and cement to 2960'. Pressure test squeeze to 1000 psi.
7. Drill out remainder of cement. TIH until bit is at 4200'. Pressure test casing to 1000 psi. If casing does not hold, consult with Midland for procedure to find leak.
8. RU Halliburton and pickle tubing with 500 gallons 15% HCL. Reverse circulate acid out of tubing with 2% KCL water containing surfactant (Lo-surf) and clay stabilizer (ClaSta XP) to prevent damage to Morrow Formation.