

ML \_\_\_\_\_  
TK \_\_\_\_\_  
Approved \_\_\_\_\_

**Apache Canyon 13-11**  
**Squeeze O2 Zones AFE# 1306281**  
**SEC 13 T34S R68W**  
**API: 05-071-08482**  
**LAS ANIMAS COUNTY, COLORADO**

**Formation:** Vermejo and Raton Coals

**Production csg:** 5-1/2", 15.5#, J-55 csg & set @ 2,407', DVT @ 1,473'. Cmt'd stg #1 w/178 sks (Did not circ cmt off DVT). Cmt'd stg #2 w/248 sks. (Did not circ cmt to surface). TOC @ surface. PBTD @ 2,367'.

**Tbg:** RBP @1,030', PKR @709', 2-7/8", 6.5#, J-55 tbg to surface.

**Rods:** none

**Perfs:** Raton Perfs: 663'-665', 691'-693', 743'-747', 865'-867', 919'-920', 955'-958', 1,017'-1,018'. Vermejo Perfs: 1,861'-2,097'.

**Recent Production:** SI

**Purpose:** Squeeze O2 zones (663'-665' and 691'-693'), put well back on production with Beam Pumping Unit

1. Submit NOI to COGCC informing of pending squeeze.
2. MIRU workover rig. ND WH, NU BOP. Release PKR and TOH w/tbg. LD PKR. TIH w/tbg and retrieving head, release and TOH RBP.
3. TIH w/5-1/2" CBP, hydraulic setting tool on 2-7/8" tbg. Set CBP @ +/- 710'. TOH w/tbg. TIH 5-1/2" CICR on 2-7/8" tbg. Set CICR @ +/- 600'. PT tbg to 3,000 psi. Sting into CICR and establish injection rate with produced water.
4. Rig up cementing equipment. Have 300 sks of neat cement and 300# of Calcium Chloride available on location. Pump 50 sks neat cement mixed at 15.8 ppg followed by 100 sks of cement mixed with 3% Calcium Chloride solution. Pump additional cement if required. Displace one bbl short of CICR, sting out of CICR and reverse circulate. RDMO cementing equipment. WOC at least 24 hrs or over a weekend.
5. TIH 4-3/4" cone bit, bit sub, DCs, XO, and on 2-7/8" tbg. RU AFU, drill out cement to CICR, drill out CICR and cement to CBP. PT squeeze to 500 psi. Drillout CBP and cleanout to PBTD. Circ clean w/AFU. TOH tbg and BHA.
6. TIH w/30' x 2-7/8" OEMA w/1/4" weep hole, SN, and 2-7/8", 6.5#, J-55, EUE, 8rd tubing. Land tubing with SN @ +/- 2,200'. EOT @ 2,230'. ND BOP. NU WH.

7. TIH w/2-1/2" x 1-1/2" x 10' RWAC insert pump on 7/8" grade D rods. Space out pump per SRod design. Use #2 crank hole (54"). CC effect is 5,648 lbs, use 16 wts.
8. Load tubing and pressure test pump to 500 psi.
9. Start well pumping at 3 spm.