

EMSU #377  
Eunice Monument Grayburg / San Andres Field  
Lea County, New Mexico  
July 11, 1996

Workover Procedure - Acidize Stimulate

1. MIRU PU. POH w/ rods & pump. Install BOP. GIH, tag for fill & POH w/ prod. tbg.
2. If significant fill is indicated on TD check (i.e., above 4070 +/-), RU Rev Unit. GIH w/ bit, DC's, etc. on tbg. C/O to +/-4120'. (Catch samples and analyze for composition) RD Rev Unit. POH w/ tbg, DC's & bit.
3. GIH w/ seating nipple, trtg pkr & tubing unloader on tbg. Set pkr @ 3759' +/- . Drop standing valve and seat in SN. RU BJ Services. Pick up on tubing to set tbg unloader in circ. position. Pickle tubing with 300 gals 15% NEA acid\*. Flush to bottom of tbg w/ water. Pump pickle acid at approximately 1/2 BPM. Load backside and circulate pickle acid out of tbg (at 1/2 BPM when catch pressure on backside). Repickle tubing if iron counts are above +/- 2000 ppm on "last in" acid. Slack off on tbg to set tbg unloader in closed position. Fish standing valve. Acidize OH (3809' - 4120') w/ 8500 gal Resisol II+ [viscosified aromatic solvent (20% by vol.) and acid (80% by vol.)] in 5 stages at rate of 3-4 BPM and max. trtg press of 1250 psig STP, while monitoring backside, as follows:
  - A. Pump 1500 gal Resisol II+\*\*\*.
  - B. Drop 500# Trimix salt in 10 bbls. gelled Brine water\*\*\*
  - C. Repeat step A & B three times. Vary block size depending on response encountered in previous salt block.
  - D. Pump 1500 gal Resisol II+\*\*\*.
  - E. Flush to top perf / open hole with water.\*\*\*
4. RD Trtg Co. Shut well in a minimum of 3 hours after treatment.
5. Flow/swab back acid residue until well cleans up. POH w/ pkr & tbg.
6. GIH w/ prod tbg. ND BOP. GIH w/ pump & rods. Hang well on. RD PU.
7. Test well & report results to Midland office.

\* Pickle acid to contain: 1 gal / 1000 gallons CI-23 Corrosion Inhibitor & 300 gallons 15% HCL

\*\* BJ's Resisol II+ -- Iron control system to follow tapered concentration as follows:

LEAD 2000 = 3 gal/1000 FE270 & 1 gal/1000 FE271

MID 2000 = 1.5 gal / 1000 FE270 & 1 gal/1000 FE271

TAIL 4500 = 0.5 gal/1000 FE270 & 1 gal/1000 FE271

\*\*\*Also, All flush water and diverter GBW stages to contain appropriate de-emulsifiers (NE agents)

Prepared by: Jimmy Dolan Petroleum Engineer