Completion Procedure Hudson Federal No. 3

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Plan No. 2, Stage No. 2 Continued:

- 21. Reverse circulate with 12 bbls, 2% KCL weter,
- Space out and set packer; set well head on BOP; lay flow line to pit and/or tank. 22.
- Displace acid with 12 bbls. 2% KCL water; do not exceed 2200 psig while displacing 23. acid vithout Mr. Enfield's (or Jim O'Briant's) approval.
- 24. Swab and/flow to clean- up and test
- Acidize perforations with 2000 gallons of 15% NeFe acid with additives; pump in two stages of 25. 1000 gallons of acid with 6 ball sealers between stages, displace with 2% KCl water. Do not exceed 4 BPM.
- 26. Swab and/flow to test.
- Perform additional stimulation if needed (design based upon prior treatments and flow results). 27.

Note: If BHF "Yow data are desired for this zone, set up and execute at this time.



The following procedure supplement and cost estimate have been prepared after discussions with you, Halliburton and Santa Fe Energy Personnel, Edsel Neff, Bill Chrane, et al. The basic premise is to attempt a completion in a Wolfcamp Zone as proposed by Santa Fe Energy 9/25/89. If this Zone is not commercially productive, it will be plugged and the well completed in the Wolfcamp and/or Bone Springs zones. If it is productive, the well may be dually completed in two. Wolfcamp ZUDES.

The following outlines the basic steps to accomplish the above objective. A cost estimate was made for each major section of the planned operations.

Flan No. 2, Stage No. 24 Complete Wolfcamp Zone 11,218' - 11,276' KB

- 1. Go in hole with tubing to 11,268' KB.
- 2. Circulate 500 gallons of 15% NeFe acid to spot.
- 3. POH with tubing .

Note: Keep hole full and have full opening safety valve (open) on floor at all times. Rig up electric line company with wire line pack-off and BOP. Run cement bond log from 4. 11,900' KB back to top of cement. Perforate Wolfcamp zones with a 4" premium deep penetrating charge gun from 11,225' to 11,268' KB with 1 shot per foot, top down. Go in hole with Lok-set, packer, four foot sub, "on-off" tool with 1.81" profile snd

- 5.
- balance of tubing to set at appx, 11,175' KB (no subs required).
- 6. Reverse circulste with 12 bbls. 2% KCL water.
- 7. Space out and set packer; remove BOP and nipple-up well head; lay flow line to pit and/or tank.
- 8. Displace acid with 12 bbls. 2% KCL water; do not exceed 3500 psig while displacing acid without Mr. Enfield's (or Jim O'Briant's) approval.
- ġ. Swab and/flow to clean-up and test.
- 10. Acidize perforations with 8600 gallons of 15% NeFe acid with additives; pump in stages of 200 gallons of acid with one ball sealers between stages; displace with 2% KCl water. Do not exceed 4 BPM.
- Swab and/flow to test. 11.
- Perform additional stimulation if needed (design based upon prior treatments and flow 12. results).

Note: If BHP Mow data are desired for this zone, set up and execute at this time.