TENNECO OIL COMPANY

DRILLING PROCEDURE

MIDLAND DISTRICT — SOUTHWESTERN DIVISION

LEASE: Jones Federal — WELL: No. 3

FIELD: Lusk Strawn — STATE: New Mexico

LOCATION: 660' FNL & 660' FEL, Sec. 26, T-19-S, R-31-E, ~~Lea~~ Eddy County, N.M.

PROJECTED TD: 11,500'

TYPE OF WELL:

EST. ELEV.: 3540' GL

DRILLING, CASING AND CEMENTING PROGRAM

1. Drill 17 1/2" hole to 700'± (into Anhydrite).
2. Cement 13 3/8", 48 #/ft., H-40, ST&C casing at 700'± with sufficient 50-50 Incor Pozmix w/2% gel and 2% $CaCl_2$ and tail in with 100 sx Class "C" w/2% $CaCl_2$ to circulate. Run bar centralizers on float shoe and bottom two joints. Use a guide shoe and insert float.
3. If float holds, release pressure immediately, center 13 3/8" casing and nipple up as soon as possible. Test casing to 1000 psi for 30 min. and drill out.
4. Drill 11" hole to 4,000'±. NOTE: Loss of circulation may be encountered between 2,800' and 3,500'. If severe at this location, hole may be dry drilled to intermediate casing point. Do not exceed 20,000# bit weight and 60 RPM until first three collars are below casing shoe.
5. At intermediate point, run 8 5/8" casing as follows: 0 - 4000' 32#/ft., J-55, ST&C Use a guide shoe with insert float in second collar. Use weld on bar centralizers on shoe and first two collars. Run a DV Packer at a point below the Yates producing section and above the lost circulation zone. The base of the Yates is estimated at 2600' and the lost circulation zone at 2670' in this well.
6. Cement in two stages as follows:
   1st Stage: 200 sx Incor containing 2% $CaCl_2$
   2nd Stage: 50 sx 50-50 Incor containing 4% $CaCl_2$ followed by sufficient 50-50 Incor Pozmix containing 6% gel to reach the base of the salt section at approximately 2230'.
7. If DV tool holds, land casing as cemented, release pressure immediately and nipple up. Run temperature survey after 4 hours. Pressure test DV tool to 1000 psi for 30 min. If o.k., drill out and test 8 5/8" casing to 1000 psi for 30 min. If o.k., drill out with 7 7/8" bit. Do not exceed 20,000 # weight and 60 RPM until first three collars are below casing shoe.
8. Drill 7 7/8" hole to 11,600'±.
9. Run 4 1/2" casing as follows:
   0 - 3300': 11.6 #/ft., N-80, LT&C
   3300 - 8000': 11.6 #/ft., J-55, ST&C
   8000 - 11600': 11.6 #/ft., N-80, LT&C

   Use float shoe, differential fill-up collar. Use reciprocating scratchers and centralizers to cover productive interval.