

EXHIBIT "E"

PETROLEUM DEVELOPMENT CORPORATION

Manzano Grande Federal #1
660' FSL & 1980' FEL, Sec. 5, T24S, R26E
Eddy County, N. M.

MUD PROGRAM

- 0-450 Fresh water gel and lime spud mud, 40-50 sec. viscosity, lost circulation material, if needed.
- 450-
5500 Brine water with lime for pH control. Sweep hole clear with a viscous slug prior to running 8-5/8" casing. Capitan Reef development is not likely, but stringers can occur at any point in the Delaware section which could cause partial to complete loss of circulation. A few sacks of paper added to the system should control seepage or mild loss.
- 5500-
8600 Fresh water with lime for pH control. In case of fill-up after trips, maintain a 50 sec. viscosity gel in fifth pit and pump a 100-bbl. slug through the hole every 12 to 24 hours.
- 8600-
10,100 Brine water for drilling Wolfcamp shale section. After displacing first 300 bbls. of brine, add 25 sk. paper to system for sealer.
- 10,100-
TD Add Drispac, gel, 3% KCL to maintain drilling fluid with the following characteristics:
- | | |
|--------------|-------------------|
| Weight: | 10.2 - 10.7#/gal. |
| Viscosity: | 34-36 seconds |
| Water Loss: | 10 cc. or less |
| Initial Gel: | 0-5 |
| 10-min. Gel: | 5-15 |

Note: Pit volume totalizers, flow sensors, drilling head and mud-gas separator will be installed prior to reaching 8600'. BOP stack and related surface pressure control equipment will be tested by an independent tester.