## Application to Drill

Fina Oil and Chemical Company R. E. Horton Federal, Well No. 38 1700' FNL & 920' FEL, Sec. 30, T-8-S, R-35-E Roosevelt County, New Mexico Lease No. NM-0145685 (Replacement Water Injection Well)

In conjunction with Form 3160-3, Application for Permit to Drill subject well, Fina Oil and Chemical Company submits the following items of pertinent information in accordance with BLM requirements:

- 1. The geologic surface formation is undifferentiated Quarternary alluvial deposits overlying late Tertiary (Ogallala) sediments.
- 2. The estimated tops of geologic markers are as follows: Anhydrite 2233' (+ 1990 subsea) Yates 2703' (+ 1520 subsea) San Andres 3943' (+ 280 subsea)
- 3. The estimated depth at which anticipated water, oil or gas formations are expected to be encountered: Water: Random fresh water sands from surface to <u>+</u> 300' Oil: 4648' (-425 subsea) Gas: None anticipated
- 4. Pressure Control Equipment: See Form 3160-3 and Exhibit "D"
- 5. Proposed Casing Program: See Form 3160-3
- 6. Mud Program: See Form 3160-3
- 7. Testing, Logging and Coring program: Logging: Gamma ray - Neutron Compensated Density-Neutron Bore-hole compensated sonic Dual lateral-micro-lateral Coring: It is anticipated that 120' of core will be taken in the San Andres dolomite from 4640' to 4760'. Testing: None anticipated
- 8. The expected bottom-hole pressure is 1900 psi with no abnormal pressure anticipated. Maximum bottom-hole temperature anticipated is 108 Deg. F.
- 9. Anticipated spud date: October 12, 1987 Anticipated completion of drilling operations: Approximately 8 days.