

APPLICATION FOR DRILLING

BETTIS, BOYLE & STOVALL
BIG EDDY UNIT #114
2080' FNL & 660' FEL
Section 21, T-21-S, R-29-E
Eddy County, New Mexico

In conjunction with Form 3160-3, Application for Permit to Drill subject well, Bettis, Boyle & Stovall submits the following items of pertinent information in accordance with USGS requirements.

1. The geologic surface formation is Quaternary.
2. The estimated tops of geologic markers are as follows:

Delaware	3,250'
Bone Spring	6,900'
Wolfcamp	10,200'
Strawn	11,400'
Atoka	12,000'
Morrow	12,700'
3. The estimated depths at which anticipated water, oil or gas formations are expected to be encountered.

Water:	Approximately	150'
Oil or Gas:	Strawn	11,400'-11,750'
	Atoka-Morrow	12,000'-13,300'
4. Proposed Casing Program: See Form 3160-3 and Exhibit F.
5. Pressure Control Equipment: See Form 3160-3 and Exhibit E.
6. Mud Program: See Exhibit G.
7. Auxiliary Equipment: Kelly Cock; pit level indicators and flow sensor equipment; sub with full-opening valve on floor, drill pipe connection.
8. Testing, Logging and Coring Programs:

Drill stem tests to be justified by valid show of oil or gas:

Wolfcamp	10,200'
Strawn	11,400'
Atoka-Morrow	12,000'-13,300'

Logging:

Logging unit from 3,300' to TD

Logging program: Neutron-Density Porosity Log
 Dual Laterolog
 Dual Spaced Sonic Log
 Dip Meter

9. No abnormal pressures or temperatures are anticipated.
10. Anticipated starting date: December 23, 1989