

APPLICATION FOR DRILLING
Kimball Production Company
Federal-21 Well No. 1
Section 21-T21S-R21E
Eddy County, New Mexico

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AUG 4 1977
U.S. GEOLOGICAL SURVEY
ARTESIA, NEW MEXICO

In conjunction with Form 9-331C, Application for Permit to Drill subject well, Kimball Production Company submits the following ten items of pertinent information in accordance with U.S.G.S. requirements:

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

Glorieta	1900'
Tubb	2825'
Abo	3450'
Cisco	5200'
Canyon	5700'
Strawn	6300'
Atoka	6850'
Morrow	7200'

3. The estimated depths at which anticipated water, oil or gas formations are expected to be encountered:

Fresh Water: None, no fresh water sounds.
Oil: Cisco at approximately 5200'
Strawn at approximately 6300'
Morrow at approximately 7200'

4. Proposed Casing Program: See Form 9-331C.
5. Pressure Control Equipment: See Form 9-331C and Exhibit D-Page 2
6. Mud Program: See Form 9-331C.
7. Auxiliary Equipment: Mud monitoring equipment to record pit level, measure mud volume and a flow sensor; kelley valve; safety sub with full opening valve, drill pipe float valve.
8. Testing, logging and coring programs:
All shows will be drill stem tested.
It is anticipated that Cisco, Strawn and Morrow will be tested.
Neutron-Formation Density and Dual Induction Laterolog.
9. No abnormal pressures or temperatures are anticipated. The Pennzoil dry hole in Section 28 would indicate that maximum pressure will not exceed 3000 psi and that hydrogen sulfide will not be encountered.
10. Anticipated starting date: As soon as possible. Lease expires September 1, 1977.