

Application for Permit to Drill Government "AD" No. 2

December 8, 1976

Page No. 2

7. Estimated tops of important geologic markers:

Bone Springs	5020
Dean	8440
Wolfcamp	8740
Canyon	8980
Strawn	10120
Atoka	10740
Morrow	11020
Chester	11630
TD	11680

8. Estimated depths at which anticipated water, oil, gas or other mineral bearing formations are expected to be encountered:

A. Primary objective (top) Morrow SS	11020
B. Secondary objectives (top)	
Wolfcamp	8740
Canyon	8980
Strawn	10120
Atoka	10740

9. The proposed casing program is as follows:

Surface:	13-3/8" OD 48# H40 ST&C new casing
Intermediate:	8-5/8" OD 24# and 32# K55 ST&C new casing
Production:	5-1/2" OD 17# and 20# N80 LT&C new casing

10. Casing setting depth and cementing program:

- A. 13-3/8" OD surface casing set at 600'. Cement with 300 sacks Class C, 4% gel, 12# Gilsonite and 1/4# flocele/sack with 2% CaCl followed by 200 sacks Class C with 2% CaCl.
- B. 8-5/8" OD intermediate casing set at 3000'. Cement with 300 sacks Halliburton Thick Set Class C with 10# Gilsonite and 1/2# Flocele per sack and 3% CaCl followed by 800 sacks Halliburton Lite with 5# Gilsonite and 1/4# Flocele per sack followed by 200 sacks Class C with 2% CaCl.
- C. 5-1/2" OD production casing set at 11,680'. Cement with 720 sacks Class H with 0.6 CFR-2 and 5# KCL per sack. Bring cement back to 8200'.

II. Pressure Control Equipment

0 - 600' - None

600 - 3000' - 12" 3000# BOP with blinds and pipe rams.  
Tested with rig pump.