

J. C. WILLIAMSON
TOG Federal # 5

1. SURFACE FORMATION: Quaternary Alluvium

2. ESTIMATED TOPS OF GEOLOGIC MARKERS:

Rustler Anhydrite	250'
Terrell	1150'
Yates	1400'
Goat Seep Reef	1650'
T/Delaware Sand series	3350'
T/Lower Delaware	5600'
T/Bone Springs Lime	5950'

3. ANTICIPATED POSSIBLE WATER AND HYDROCARBON BEARING ZONES:

Fresh Water	above 200'
Delaware (oil)	3350' - 5950'
Bone Springs	5950' - 6100'

4. PROPOSED CASING AND CEMENTING PROGRAM:

Casing program is shown on Form 9-331 C.

Hole for surface casing will be drilled to a depth below fresh water zones. 12-3/4" surface casing will be run to 1200 feet, below all fresh water zones and will be cemented to the surface with 1000 sacks of Class "C" cement.

8-5/8" casing will be run and cemented at 3100 feet, prior to entering Delaware section and will be cemented with 400 sacks of Class "C" cement at 3300 feet, tying same back into surface casing.

5-1/2" casing will be run to total depth and will be cemented at a total depth if significant shows are encountered in the Bone Springs formation, or in the Delaware formation if significant shows are encountered in the Delaware sand series.

5. PRESSURE CONTROL EQUIPMENT:

Pressure control equipment will consist of a 3000# double ram hydraulically controlled blow out preventer and a 3000# choke manifold.

6. CIRCULATING MEDIUM:

The circulating medium will be fresh water down to 1200 feet and fresh water down to 3100' if possible, and brine water below 3100'.

7. AUXILARY EQUIPMENT:

Not Applicable.