

# APPLICATION TO DRILL

POGO PRODUCING COMPANY  
WBR FEDERAL # 5  
UNIT "N" SECTION 13  
T22S-R32E LEA CO. NM

## 9. CEMENTING CASING & SETTING DEPTH:

|         |                  |   |
|---------|------------------|---|
| 20"     | Conductor        | Set 40' of 20" conductor and cement to surface with Redi-mix.   |
| 13 3/8" | Surface          | Set 750' of 13 3/8" H-40 48# ST&C casing. Cement with 650 Sx. of Class "C" cement + additives, circulate cement to surface.   |
| 9 5/8"  | Intermediate     | Set 4700' of 9 5/8" 40.5# N-80 ST&C casing. Cement with 1800 Sx. of Class "C" cement + additives circulate to surface.  |
| 7"      | 2nd Intermediate | Set 12,200' of 7" 29# P-110 & N-80 LT&C casing. Cement in in two stages DV tool at 7000'±, using 1200 Sx. of Class "H" cement + additives, estimate top of cement 3000' from surface. |
| 5"      | Liner            | Set 3400' of 5" 18# S-95 LT&C casing for liner. Cement with 400 Sx. of Class "H" Premium Plus low water loss cement.  |

10. PRESSURE CONTROL EQUIPMENT: Exhibit "E" A 1500 Series 5000 PSI working pressure B.O.P. consisting of a double ram type preventor with a bag type annular preventor. B.O.P. will be hydraulically operated. Exhibit "E-1" shows choke manifold & closing unit. B.O.P. will be nipped up on 13 3/8" casing and will be operated at least once each 24 Hr. period while drilling and blind rams will be worked when out of hole on trips. Flow sensor, PVT, full opening stabbing valve and upper kelly cock will be utilized. No abnormal pressure or temperature is expected while drilling.

## 11. PROPOSED MUD CIRCULATING SYSTEM:

| DEPTH         | MUD WT.   | VISC. | FLUID LOSS    | TYPE MUD  |
|---------------|-----------|-------|---------------|---|
| 40-750'       | 8.6-8.8   | 29-36 | NC            | Fresh water use paper to control seepage.   |
| 750-4700'     | 10-10.6   | 29-35 | NC            | Brine water add paper as needed to control seepage and use high viscosity sweeps to clean hole. |
| 4700 -12,200' | 8.6-8.8   | 29-38 | NC            | Fresh water use paper to control seepage and high viscosity sweeps to clean hole.               |
| 12,200-15,400 | 10.5-10.9 | 29-38 | 10 cc or less | Brine water Dris-Pac system raise viscosity when needed to clean clean hole.                    |

Sufficient mud materials will be kept on location at all times in order to combat lost circulation, unexpected kicks. In order to run DST's, open hole logs, and run casing water loss & viscosity may have to be adjusted to meet these conditions.