

APPLICATION TO DRILL

POGO Producing Company
Lone Ranger "11" Federal #1
1980' FEL & 1980' FSL Sec. 11
T19-S-R33E 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 525' of 13-3/8" 54.5# J-55 casing cement with 530 sx Class "C" + additives. Circulate cement to surface. |
| 8-5/8" | Intermediate | Set 3100' of 8-5/8" 32 & 24# J-55 casing. Cement with 700 sx Halco Light Tailin with 600 sx of Class "C" + additives, Circulate cement to surface. |
| 5-1/2" | Production | Set 8000' of 5-1/2" 17 & 15.5 J-55, LT&C casing. Cement with 500 sx Halco Light Tail in with 550 sx Premium cement + additives. Top of cement 2100'. |

10. Pressure Control Equipment:

Exhibit "E" shows a 900 Series 3000 PSI working pressure double ram type Blow Out Preventor, hydraulically operated. Exhibit "E-1" shows the choke manifold and closing unit. Blind rams on top and pipe rams on bottom to correspond with the drill pipe size being used. The BOP will be nipped up on 13-3/8" casing and remain on the hole till the casing is run and cemented. The BOP will be tested after each string of casing is run and will be worked at least once each day while drilling and blind rams will be worked when drill pipe is out of hole. Flow sensor, PVT, full opening, stabbing balve and upper kelley cock will be utilized.

11. Proposed Mud Circulating System:

| <u>Depth</u> | <u>Mud Wt.</u> | <u>Mud Visc.</u> | <u>Fluid Loss</u> | <u>Type Mud</u> |
|--------------|----------------|------------------|-------------------|--|
| 0 - 525' | 8.4-8.6 | 28-34 | NC | Fresh water Spud mud. Add paper to control seepage. |
| 525-3100' | 10.0-10.2 | 29-32 | NC | Brine water use Lime for pH control & paper for seepage. |
| 3100'-8000' | 8.4-8.6 | 28-34 | NC | Fresh water. |

Sufficient mud materials to maintain mud properties, meet lost circulation and weight increase requirements will be kept at the well site at all times. In order to log well and run casing the viscosity may have to be raised and the water loss lowered.