

APPLICATION TODRILL

POGO PRODUCING COMPANY
 BOOTLEG RIDGE "14" FEDERAL COM. # 3
 UNIT "P" SECTION 14
 T22S-R32E LEA CO. NM

9. CEMENTING CASING & SETTING DEPTH:

20"	Conductor	Set 40' of 20" conductor pipe and cement to surface with Redi-mix.
13 3/8"	Surface	Set 900' of 13 3/8" 48# H-40 ST&C casing. Cement to surface with 1000 Sx. of Class "C" cement + additives.
9 5/8"	1st Intermediate	Set 4600' of 9 5/8" 40.5# N-80 ST&C casing. Cement with 1800 Sx. of Class "C" cement + 1/2# Celc Flakes/Sx. + 2% CaCl, circulate to surface.
7"	2nd Intermediate	Set 12,200' of 7" 29#, 4200' of S-95 LT&C, 8000' of P-110 LT&C casing. Set DV tool at 7000'± cement with 1200 Sx. of Class "H" cement + additives, estimate top of cement 3000' from surface.
5"	Liner	Set 3400' of 5" 18# S-95 ST&C liner from 12,000' to 15,400'. Cement with 400 Sx. of Class "H" Low Water Loss Cement + additives, circulate cement to top of liner.

10. PRESSURE CONTROL EQUIPMENT: Exhibit "E" shows a 1500 Series 5000 PSI working pressure B.O.P. consisting of top bag type annular preventor, middle blind rams, bottom pipe rams. This will be on the hole from 900' to 12,200'. Exhibit "E-1" shows a 10,000 PSI working pressure B.O.P. consisting of top bag type annular preventor, middle top pipe rams middle bottom blind rams, bottom pipe rams. Both B.O.P.'s will be will be operated by a hydraulically operated closing unit. Choke manifold will have hand and hydraulic controls. Pipe rams will be operated on a regular time schedule and blind rams will be operated when drill pipe is out of hole on trips. Flow sensor PVT, full opening stabbing valves and upper kelly cock will be utilized. No abnormal pressures of temperatures are expected while drilling.

11. PROPOSED MUD CIRCULATING SYSTEM:

DEPTH	MUD WT.	VISC.	FLUID LOSS	TYPE MUD
40-900'	8.5-8.7	29-34	NC	Fresh water spud mud add paper to control seepage if necessary.
900-4600'	10.2-10.4	29-35	NC	Brine water add paper to control seepage & Lime to control pH
4600-12,200'	8.5-8.7	29-38	NC	Fresh water add Gel for High viscosity sweeps to clean hole.
12,200-14,200'	10.5-10.7	28-38	NC	Brine water using high viscosity sweeps to clean hole, and Soda Ash to control pH
14,200-15,400	10.5-10.8	32-40	10 cc or less	Use a Brine Dris-Pac system to control water loss for DST's and open hole logs.

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.