

12-1/4"	0- 4,000'	9-5/8"	36#, K-55, LT&C
8-3/4"	0-13,000'	5-1/2"	17#, K-55, LT&C

Cement Program:

13-3/8" Surface Casing: (17-1/2" hole)	Cemented to surface using Class "C" + 4% Gel + 3% salt, followed by Class "C" + 2% CaCl ₂ .
9-5/8" Intermediate Casing (12-1/4" hole)	Cemented to surface using Class "C" + 4% Gel + additives, followed by Class "C" neat.
5 1/2" Production Casing (8-3/4" hole)	Cemented to intermediate casing shoe using Class "C" + 16% Gel + additives, followed by Class "H" + additives.

The above cement slurries will be designed using caliper logs to circulate cement to surface.

5. Minimum Specifications for Pressure Control:

The blowout preventor equipment (BOP) shown in attachment will consist of a (2M system) double ram type (2000 psi WP) preventor. The unit will be hydraulically operated and equipped with blind and pipe type rams. BOP's will be installed on the 13-3/8" surface casing and will be utilized continuously until total depth is reached and production casing is in place and cemented. All BOP's and associated equipment will be tested before drilling out 13-3/8" casing shoe, with rig pumps and before drilling out 9-5/8" casing shoe to rated WP's.

Pipe rams will be operated and checked each 24 hour period and each time the drill pipe is out of the hole. These function tests will be documented on the daily drillers log. A 2" kill line and 2" choke line will be incorporated in the drilling spool below the ram-type BOP. Other BOP equipment will include a kelly cock, floor safety valve, choke lines and choke manifold having 2000 psi WP rating.

6. Types and Characteristics of Proposed Mud System:

The well will be drilled to a total depth using fresh water and brine water mud systems.

<u>DEPTH</u>	<u>TYPE</u>	<u>WEIGHT</u>	<u>VISCOSITY</u>	<u>WATER LOSS</u>
0'-450'	Fresh Water	8.3-8.6	34-36	No Control
450'-4000'	Brine Water	10.0	28	No Control
4000'-TD	Brine Water	8.7-10.0	30	<10CC