

5. Minimum Specifications for Pressure Control:

The blowout preventer equipment (BOP) shown on Exhibit "A" will consist of a double ram-type (3000 psi WP) preventer and a bag-type (hydril) preventer (3000 psi WP). Both units will be hydraulically operated and the ram-type preventer will be equipped with blind rams on top and 4 1/2" drill pipe rams on bottom. Both BOPs will be nipped up on the 13 3/8" surface casing and used continuously until TD is reached. All BOPs and accessory equipment will be tested to 1000 psi before drilling out of surface casing. Before drilling out of intermediate casing, the ram-type BOP and accessory equipment will be tested to 3000 psi and the hydril to 70% of rated working pressure (2100 psi).

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. A 2" kill line and 3" choke line will be included in the drilling spool located below the ram-type BOP. Other accessories to the BOP equipment will include a kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold with 3000 psi WP rating.

6. Types and Characteristics of the Proposed Mud System:

0' to 550'	Fresh water with lime and gel with paper and fiber for seepage will be used for drilling purposes. Anticipated mud properties are as follows: MW 8.4-8.6, Vis 29-36, Ph > 8, WL N/C.
550' to 4900'	Saturated brine water purchased from commercial sources with paper and fiber for seepage will be utilized. Anticipated mud properties are as follows: MW 8.6-10.5, Vis 32-34, Ph 10, WL N/C.
4900' to 7500'	3% KCL water with 20-50 PPM Nitrates, CL 30,000 PPM, caustic for PH control, paper for seepage and starch for fluid loss control will be utilized. Anticipated mud properties are as follows: MW 8.5-8.9, Vis 29-34, Ph 9-10, WL NC-50.