

8 5/8" casing will be cemented with a lead slurry of 700 sacks Class C cement with 1/4# cellophane/sk and 3% sodium metasilicate. Tail with 200 sacks Class C cement with 2% CaCl₂. Cement to tie into 13 3/8" casing.

5 1/2" casing will be cemented with 425 sacks Class H containing 0.8% fluid loss additive, 0.3% dispersant and 0.3% free water control. Cement designed for a top of 8000'. It is possible a stage tool may be run based on shows. If required, it will be positioned to best suit hole conditions.

Cement volumes and additives on all strings may be modified based on hole conditions.

5. PRESSURE CONTROL EQUIPMENT

Blowout equipment while drilling below the 13 3/8" casing seat will be a 3000 psi working pressure BOP stack. While drilling below the 8 5/8" casing seat, a 3000 psi BOP stack will also be utilized. A BOP sketch is attached.

6. CIRCULATING MEDIUM:

Surface to 450': Fresh water spud mud. Viscosity of 36 - 38 as required for hole cleaning.

450' to 3000': Drill out from under surface with fresh water adding brine for makeup. Viscosity of 32 - 34 to clean hole.

3000' to 6400': Drill out from under intermediate with fresh water with a viscosity of 28 - 30. Add brine water below 5000'.

6400' to 10300': At 6400', add salt water gel to the system to increase viscosity to 36 - 40. Add 3 - 5% oil to the system to stabilize Abo section. Do not control water loss from 6400' to 9900'. Lower water loss to 10 - 15 cc at 9900'.

7. AUXILIARY EQUIPMENT:

A mud logging trailer will be in used when drilling below 3000'.

8. TESTING, LOGGING AND CORING PROGRAMS:

Drill stem tests will be made when well data indicates a test is warranted.

Electric logs will include CNL-FDC-GR and DLL-GR.

No coring is planned.

