

## DRILLING, CASING AND CEMENTING PROGRAM

- 1) Drill 12 1/4" hole to approximately 1600' or to firm formation with fresh mud, with a viscosity of 32 seconds per quart and no control over water loss. Maintain pump pressure less than 800 psi to prevent excessive hole enlargement.
- 2) Circulate hole clean with 2 hole volumes of mud.
- 3) Run 8 5/8" casing with a centralizer on the first collar and one on each third collar from the bottom. Use a Texas patterned guide shoe with an aluminum baffle float. Land the casing with the collar eighteen inches below the surface.
- 4) Cement the casing in place with 615 sacks Class "C" + 4% gel + 2% Calcium Chloride and 1/4# per sack cellophane, plus 200 sacks class "c" with 2% Calcium Chloride and 1/4# per sack cellophane. Displace the cement to the float. Shut in.
- 5) Wait on cement 12 hours before drilling out. Test pressure control equipment to 1000 psi for 30 minutes before drilling through the casing shoe.
- 6) Drill 7 7/8" hole with brine at native conditions to a depth of 6900'.
- 7) At 6900' depth maintain the mud viscosity at 32 seconds per quart and reduce water loss to less than 10 cc per 30 seconds.
- 8) Drill to TD of 8000'. Estimated BHP = 2500 psi.
- 9) Circulate hole for 4 hours with mud at designed conditions.
- 10) Pull out of the hole, lay down drill string.
- 11) Run 5 1/2" casing with guide shoe, float collar, latchdown wiper plug baffle and 20 centralizers, one on each collar from the first collar up. Install a DV tool at 5000'.
- 12) Cement Stage 1 with 220 sx 35:65:6 POZ "H" plus 5% salt plus 1/4#/sx celloflake plus 395 sx "H" plus 1/4#/sx celloflake. Open DV tool at 5000' and cement Stage 2 with 670 sx "c" plus 3% salt plus fluid loss chemicals - circulate cement to surface - displace plug with 2% KCL water, release pressure and leave shut in.