

3. Estimated Depths of Anticipated Fresh Water, Oil, or Gas:

Upper Permian Sands	0-300'	fresh water
Lower Permian Wolfcamp "Chert"	10-930'	oil
Lower Penn Atoka	12,393'	gas
Middle Morrow Clastics	13,130'	gas
Lower Morrow	13,500'	gas

The ground water will be protected by setting 13-3/8" surface casing at 400' and circulating cement back to surface. The productive Wolfcamp horizons will be protected by setting 5-1/2" production casing at TD with cement tied back to approximately 10,000' on bottom.

4. Proposed Casing Program:

<u>Hole Size</u>	<u>Interval</u>	<u>Casing OD</u>	<u>Description</u>
25"	0-40'	20"	Conductor
17-1/2"	0-400' <i>425</i>	13-3/8"	48#, H-40, ST&C, New, R-3
11" or 12-1/4"	0-5000'	8-5/8"	32#, J-55, LT&C, New, R-3
7-7/8"	0-10,200'	5-1/2"	17#, N-80, LT&C, New, R-3
7-7/8"	10,200-13,800'	5-1/2"	17#, S-95, LT&C, New, R-3

Proposed Cement Program:

20" Conductor: Ready-mix poured to surface.

13-3/8" Surface Casing: Cemented to surface with 170 sx 35:65 Poz (35% Poz:65% Class "C") + 6% Gel (Bentonite) + 0.25 lb/sk Cello Flake + 1% CaCl₂ lead & 200 sx Class "C" + 2% CaCl₂ tail. Float equipment: Texas Pattern shoe with an insert float valve above the shoe joint and 2 centralizers. The shoe and first collar will be welded. One plug will be used to displace cement.

8-5/8" Intermediate Casing: Cemented to surface with 1400 sx 35:65 Poz (35% Poz:65% Class "C") + 6% Gel (Bentonite) + 0.25 lb/sk Cello Flake + 5 lb/sk Salt lead & 200 sx Class "C" + 2% CaCl₂ tail. Float equipment: Float shoe with a float collar 1 joint above the shoe joint and 12 centralizers. The shoe and float collar will be welded. One plug will be used to displace cement.

5-1/2" Production Casing: Cement w/Lead: 210 sx 50:50 Poz:Cl H + 5% D44 + 0.4% D112 + 0.25% D65 + 2% D20 + 0.15% D13. Tail: 330 sx 35:65 Poz: Cl H + 5% D44 + 6% D20 + 0.15% D13.