

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

Upper Permian Sands	0-300'	Fresh Water	*
1 st Bone Spring SS Mbr	9400'	oil	**
2 nd Bone Spring SS Mbr	9940'	oil	**
Middle Morrow Clastics	13170'	gas	
Lower Morrow	13510'	gas	

* Ground water will be protected by 13-3/8" surface casing with cement circulated to surface.

** Potentially productive horizons in the 7-7/8" hole section to be protected by the 5-1/2" casing with cement at least 500' above upper most zone.

4. Proposed Casing Program:

Hole Size	Interval	Casing OD	Description
26"	0-40'	20"	Conductor, if necessary
17-1/2"	0-500'	13-3/8"	48# H-40, ST&C New, R-3
11"	0-4850'	8-5/8"	32# J-55, ST&C, New, R-3
7-7/8"	0-9500'	5-1/2"	17# P-110, LT&C, New, R-3
7-7/8"	9500'-13700'	5-1/2"	17# HCP-110, LT&C, New, R-3

Proposed Cementing Program:

20" Conductor: Ready-mix poured to surface.

13-3/8" Surface Casing: Cement w/210 sx Class "C" Light (12.5 ppg, 2.06 ft³/sx). Tail w/ 200 sx Class "C" + 2% CaCl₂ (14.8 ppg, 1.32 ft³/sx).
Float Equipment: Texas pattern shoe w/ insert float valve above shoe joint, 3 centralizers.

8-5/8" Intermediate Casing: Cement to surface in two (2) stages. DV Tool estimated at 3000'.
1st stage: 250 sx Interfill "C" (11.5 ppg, 2.73 ft³/sx). Tail w/200 sx Class "C" + 1% CaCl₂ (14.8 ppg, 1.32 ft³/sx).
2nd stage: 600 sx Interfill "C" (11.5 ppg, 2.73 ft³/sx). Tail w/100 sx Class "C" (14.8 ppg, 1.32 ft³/sx). Float Equipment: Float shoe w/float collar above shoe joint, 12 centralizers.

* Note: If loss circulation is severe, an external casing packer will be run in combination with the stage tool to insure returns on 2nd stage.

