

Float shoes, float collars, and centralizers will be utilized where feasible. Casing will be reciprocated during cementing operations when possible. Fluid spacers and top wiper plugs will be utilized on each job.

6.) **Mud Program:**

Surface to 400': Spud with gel/lime water base fluid having 34-36 sec./qt. viscosity with lost circulation material as required. Fluid viscosity may be increased to 45-50 sec./qt. in the event circulation becomes a problem. Anticipate loss of circulation.

400' to 3,100': Brine/Native System with lime for pH control and drilling paper/fibrous material for lost circulation control. Mix salt gel system @ 10 ppg, viscosity 39-42 sec./qt., fluid loss 12-15 ml/30 min. if hole conditions warrant.

3,100' - 10,550': Controlled Brine/Native System with pH of 9.5-10.5, mud weight of 8.8-9.2 ppg, and total solids < 1.5%. Utilize salt gel sweeps for hole cleaning.

10,550' - 14,100': Drill out below 7" casing with 10 ppg brine with pH 9.5-10.5. Prior to top of Strawn formation mix Duo-Vis/Polypac or equivalent system with 36-38 sec./qt., 6-10 ml./30 min. or less fluid loss, and barite as required for weighting mud system. Mud weights and viscosity will be adjusted as dictated by hole conditions. A 12.0-12.5 ppg system may be required for pressure control.

Adequate amounts of LCM and barite will be on location to control circulation and maintain bottom hole pressures. Minimum kick detection equipment will include a mud return indicator (flow line sensor) and pit volume totalizer (PVT).

7.) **Anticipated Testing, Coring, and Logging:**

Mud Logger - On site @ 2,950' (above Lanar)

Potential DST Zones - Wolfcamp, Atoka, Morrow

Logging Program:

	<u>Log Suite</u>	<u>Intervals</u>
Run #1	AIT-GR CNL-LDT-GR Rotary Sidewall Cores	Base Delaware - Base Short Intermediate Casing Base Delaware - Base Short Intermediate Casing (GR - Neutron to Surface) Selected Intervals in the Bell & Cherry Canyon Section
Run #2	DLL-MSFL-GR CNL-LDT-GR	Top Wolfcamp - Base Delaware Top Wolfcamp - Base Delaware
Run #3	DLL-MSFL-GR CNL-LDT-GR	TD - Top Wolfcamp TD - Top Wolfcamp

8.) **ANTICIPATED BOTTOM HOLE PRESSURE:**

The Wolfcamp formation (10,500' - 12,150') and Atoka formation (12,400' - 13,350') may be over pressured. Bottom hole pressures in the 8,000 psi - 8,500 psi range may exist.