Cambro-Ordovician Arbuckle Group

Arbuckle Core Characteristics
- Core samples are typically thick-section and high-resolution, providing insights into the petrophysical properties of the reservoir.
- Core analysis reveals varying porosity and permeability values, essential for understanding reservoir quality.
- Petrophysical trends indicate that permeability is generally lower than porosity, suggesting a dominance of matrix dominance.

Summary of Petrophysical Trends
- Core analysis shows a wide range of porosity and permeability values, with some core samples exhibiting high permeability despite low porosity.
- The relationship between porosity and permeability is complex, with factors such as matrix compaction and cementation playing significant roles.

Discussion & Conclusions - All Systems
- The Arbuckle Group is a significant reservoir formation, providing insight into the petrophysical properties and potential for hydrocarbon recovery.

Primary Factors Controlling Reservoir Properties
- Porosity: A key factor in reservoir quality, porosity affects fluid capacity and permeability.
- Permeability: Determines fluid flow and connectivity within the reservoir.
- Lithology: Variations in lithology can significantly impact reservoir properties, affecting porosity and permeability.

Secondary Factors Favoring Reservoir Properties
- Temperature: Higher temperatures can alter mineralogy and affect reservoir properties.
- Pressure: Pressure changes can influence fluid flow and reservoir performance.

Petrophysical Properties for All Systems
- A. Core Analysis
- B. Petrophysical Analysis
- C. Reservoir Evaluation

In-Situ Klinkenberg Permeability (mD)

Helium Porosity (%)