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**Detailed Sedimentology and Stratigraphy of the Remington 21-1H Cane Creek Shale Core,
Pennsylvanian Paradox Formation, Southeastern Utah: Implications for Unconventional
Hydrocarbon Recovery**

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The Cane Creek shale records an early stage of a developing transgressive–regressive cyclic sequence (Cycle 21) in the Middle Pennsylvanian Paradox Formation, southeastern Utah. The Cane Creek is informally divided into three zones. These are; in ascending order, the lower C, middle B, and upper A. The lower C zone typically consists of interbedded silty carbonate and anhydrite. The middle B zone, the primary source and reservoir for oil and gas, consists of interbedded gray to black shale, occasional fine-grained quartz, and silty to sandy carbonate. The upper A zone typically consists of alternating beds of silty carbonate and gray to black shale with laminated or nodular anhydrite. Upper and lower seals, provided by the thick anhydrite and halite, bracket the B zone. Very low permeability in the B zone inhibits oil migration in unfractured rock. Historical data from wells, either logged through or completed in the Cane Creek shale, suggest a good potential source of hydrocarbons. However, many wells completed in the Cane Creek have limited production or experience significant production declines after a few months following completion. The Utah Geological Survey, as part of a three-year, U.S. Department of Energy project, is examining core and cuttings from the Cane Creek shale to maximize its liquid-oil production potential. In particular, we will examine the depositional environment, stratigraphic and lateral extent, frequency and abundance of fracturing, thermal maturity and geochemistry, and geomechanical properties. In this core poster session, we present the Remington 21-1H Cane Creek core, which displays the typical stratigraphic sequences of A, B, and C zones.