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**The Uteland Butte Member of the Eocene Green River Formation:
An Emerging Unconventional Carbonate Tight Oil Play in the Uinta Basin, Utah**

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The dominantly carbonate Uteland Butte Member of the lower Green River Formation has historically been a secondary oil target of wells tapping shallower overlying reservoirs and deeper fluvial-lacustrine sandstone units in the western Uinta Basin, Utah. Recently, companies have targeted relatively thin porous carbonate beds of the Uteland Butte via horizontal drilling and hydraulic fracturing.

The Uteland Butte Member records the first major transgression of Eocene Lake Uinta after the deposition of the alluvial Colton Formation. The Uteland Butte ranges in thickness from less than 60 ft to more than 200 ft and consists of limestone, dolomite, organic-rich calcareous mudstone, siltstone, and rare sandstone. The dolomite, the new horizontal drilling target, often has more than 20% porosity, but is so finely crystalline that the permeability is very low (single mD or less). Currently, low-volume conventional production occurs in the thin proximal Uteland Butte sandstone beds (Uteland Butte field) in the south-central part of the basin and distal carbonates in the northwestern part of the basin (Greater Monument Butte field).

Several companies have had recent success targeting the Uteland Butte with horizontal wells in both the central, normally pressured part of the basin near Greater Monument Butte field and farther north in the overpressured zone in western Altamont field. Production from these wells averages 500-1500 BOE per day from horizontal legs up to 4000 ft in length. Core from the productive carbonate zone was obtained from the Bill Barrett 14-3-45 BTR well (southwestern Altamont field) and is displayed with this poster. The horizontal drilling objective, as analyzed in the core, is a 5-ft interval of fractured dolomite, with porosities between 14 and 26%, interbedded with organic-rich limestone. TOC values for the 60 ft of recovered core range between 2 and 5%, while Ro values range between 0.7 and 1.1, indicating these rocks are self-sourcing.

A refined reservoir characterization study of the Uteland Butte Member using newly acquired core, cuttings, and geophysical logs will help determine new areas within the basin having potential for unconventional oil recovery and help maximize ultimate recovery.