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Proposed Stratigraphic Framework for the Wasatch/Mesaverde/Mancos Petroleum System, Uinta Basin, Utah

Exploratory drilling in the Uinta basin, Utah testing basin-centered concepts from deeper stratigraphic horizons was initiated in the late-90s by drilling under Natural Buttes field. Additional drilling outside the field area by other operators has provided much needed control critical for evaluation and development of basin-centered as well as conventional and/or enigmatic accumulations.

The authors propose use of an informal subsurface stratigraphic nomenclature for better communication between geoscientists to focus attention on the complex relationship between significant stratigraphic intervals within the Wasatch/Mesaverde/Mancos Petroleum System, measuring 4,000 to 9,000 feet thick.

The Wasatch Formation can be broken into 3 significant units in the subsurface, based on log parameters. Underlying the Wasatch, the North Horn Formation can be subdivided into 2 major units. Beds of the Dark Canyon, underlying the North Horn Formation, are discernable in the southern and western parts of the basin from log character but are more problematic to the north and east in the subsurface.

The Mesaverde Group can be subdivided into 2 major subsurface units. The lower units are associated with the complex relationship between Segoe Sandstone, Buck Tongue Interval of the Mancos Shale and Castlegate Sandstone. Underlying the Castlegate Sandstone, terminology of the Blackhawk Formation can arguably be used effectively, with Members, in descending order: Desert, Grassy, Sunnyside, Kenilworth, Aberdeen and Spring Canyon. The underlying Star Point Sandstone, with Members of the Storr and Panther Tongue are present in the western side of the basin. Mancos Shale underlies or is the lateral equivalent of the Blackhawk.