Cube Development in the Uinta Basin, Utah, Part I: Identifying Geologic Targets

Joshua T. Sigler[1], Mark Graeve[1], Luke J. Fidler[1], and Matthew A. Jones[1]

[1]XCL Resources, LLC

Abstract

The Uinta Basin of northeastern Utah, has emerged as a prolific hydrocarbon province, attracting significant exploration and production activity from oil-and-gas operators. The result of this increased development activity is that Uinta Basin oil production has recently grown to record levels. This production growth is driven by horizontal cube-style development within the oil-prone strata of lacustrine units within the Lower Green River and Wasatch Formations. Accurate identification of optimal drilling targets is crucial for maximizing resource recovery and ensuring economic viability in these complex, multi-bench horizontal developments. This study presents the comprehensive approach undertaken by XCL Resources to integrating core, wireline log data, and geochemistry to delineate prospective zones and optimize well placement. The integration of core and wireline log data, coupled with advanced analytical techniques, provides a robust framework for identifying optimal drilling targets in the Uinta Basin. This approach leverages the strengths of both data sources, enabling accurate facies characterization, reservoir property modeling, and sweet spot delineation. By implementing this methodology, XCL Resources and other operators can enhance their understanding of the subsurface, optimize well placement, and ultimately maximize resource recovery while minimizing operational risks and costs.