Chemostratigraphy as an Exploration Tool in Low-Accommodation Incised Valley Systems; An Example From the Lower Cretaceous Basal Quartz in Southern Alberta, Canada

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Abstract/Excerpt

Although many oil and gas accumulations occur in fluvially deposited low-accommodation Incised Valley settings, successful exploration is often hampered by the difficulty encountered when attempting to develop regionally robust stratigraphic frameworks.

Development of such stratigraphic frameworks is vitally important when there is potential for the juxtaposition of sandstone reservoirs that while superficially appearing similar can have markedly different reservoir properties. Using the Basal Quartz of southern Alberta as an example, this paper demonstrates how by integrating the results of regional mapping studies with mineralogical and whole rock inorganic geochemical data (i.e. chemostratigraphy), a better understanding of the stratigraphy, paleogeography and distribution of reservoirs in a low accommodation, fluvially dominated foreland basin setting can be achieved.