Use of Core Data and Completions Diagnostic Methods to Improve Production Simulations in the Woodford

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ABSTRACT

In many reservoirs, a number of formations may be contacted from a fracture stimulated horizontal well. However, even within a single reservoir, different diagnostic methods and assumptions can lead to widely varying conclusions about fracture height and reservoir contact. To improve production simulation results, a better estimate of reservoir contact is necessary and can be achieved by increasing the number of analysis methods used and integrated. In the Woodford Shale of Oklahoma particularly, a large amount of quality reservoir height is available between the Upper and Lower Woodford. By combining core analysis with fracture simulation and proppant tracer diagnostics, excellent production simulation results can be achieved that correspond to actual production performance.