MULTIDISCIPLINARY TEAMWORK RESULTS IN DRAMATICALLY IMPROVED PRODUCTION, EAST KAMENNOYE, WESTERN SIBERIA

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ABSTRACT

The Vikulov formation in the Tyumen District of southwestern Siberia consists of incised-valley deposits and shallow-marine delta-front sands, which form oil reservoirs in the area of the Krasnoleninsk dome. Reservoir quality varies considerably depending on the depositional facies. In places, high permeability channels and bars were deposited, whereas the more distal sands have much lower permeability and must be fracture stimulated to produce economically. To compound the situation, the Vikulov sands are in the transition zone, and in many places, wet sands are in close proximity to the oil-productive sands. For this reason, many of the initial completions within the acreage had poor results.

To improve field performance, a multi-disciplinary team was assembled. The team consisted of a geologist, petrophysicist, completion, production and reservoir engineers, facilities personnel and service company engineers. Their task was to better understand the properties of the Vikulov and the reservoir, determine well locations with maximum production potential, optimize stimulation treatments and provide infrastructure to produce the oil.

This paper will review the initial completion efforts and explain the methodology and changes implemented by the team to describe and define the reservoir, modify stimulation methods using a grid-based, non-coupled fracture simulator and optimize well productivity. Production increases in excess of five fold have been realized for many wells.

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