

# Well Stimulation Observations in the Viewfield Bakken Pool – What is the Production Telling Us?

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## Abstract

*The Upper Devonian-Lower Mississippian Bakken Formation of southeastern Saskatchewan has become one of the most important oil producers in North America. The success of the Bakken Formation in southeastern Saskatchewan has primarily been a result of the economic feasibility and use of engineering developments in both horizontal well drilling and multistage hydraulic fracturing.*

*The resulting benefit is cumulative oil production from the Bakken Formation in southeastern Saskatchewan now totaling 18.8 million m<sup>3</sup>. The majority of this oil production has occurred between 2004 and present, where the number of wells drilled has increased from just 160 in 2004, with 120 m<sup>3</sup> of production per day to over 2700 producing wells in 2012 producing over 10,000 m<sup>3</sup> of oil per day.*

*As a result of nearly ten years of Bakken drilling, a wealth of production data has been accumulated and is used here for production analysis. Utilizing eight wells from the Bakken Viewfield pool, each with unique production profiles, differences and similarities are observed between vertical wells, horizontal wells, fractured-horizontal wells, and horizontal wells where fracturing was delayed for several years. Conclusions regarding the efficacy of each method on the ultimate cumulative oil recovery can be made from these observations. Also, the effects of water-flooding on three selected Bakken Formation producers were analyzed to determine the viability and effectiveness of this enhanced oil recovery method when applied to Bakken Formation reservoirs.*

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