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The Effect of Treatment Parameters on Well Productivity in a High-Temperature Fracturing Application

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Abstract

The effect of treatment parameter variations on long-term well productivity is evaluated in a study of offset wells in the Codell/Niobrara formations of the DJ Basin. Bottomhole static temperature at the study site is 235-250°F. After 16 months of production, wells treated with a guar-Zr based fluid system containing an enzyme/substrate gel breaker produced 22-30% more barrels of oil equivalent (BOE) than other fracturing-fluid systems, with production normalized for reservoir property variances. These superior results were linked to longer effective fracture lengths.