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Improvements in ESP Designs in Wells Completed in Non-consolidated Sandstone Reservoirs and Mature Fields from Marine Region Mexico

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ABSTRACT

This presentation documents field experiences and integral solutions implemented in wells through technical analysis between Baker Hughes, a GE Company through multidisciplinary work with our main client in Mexico.
The integral solutions evaluated include:
• Productivity evaluation and definition of critical pressure drop per well through nodal analysis
• Evaluation of reservoir characteristics and optimal production rates and fluids properties
• Drainage area analysis between nearby producing wells
• Analysis of existing wells completion and sand control techniques
• Implementation of corrective cleanings in producing wells through ESP systems
• Improvements in ESP designs like special configuration such as stabilized pumps, mixed flow stages, abrasion resistant materials, and others. As well techniques of surveillance, monitoring and diagnosis of wells
• Improvement ESP completion through implementation of downhole tools to separate solids that extend the ESP run life
The success of this evaluation has several key factors based on the goals set by the operator and the ESP supplier. This common goal is maximizing ESP run life and well performance without adding to well downtime. This presentation describes several benefits achieved through interdisciplinary work, including expanded reservoir evaluation, lower completion analysis enhanced and well productivity.