

## **Optimizing Well Performance: A Comparison of ESP's vs Long Stroke Pumping Units**

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### **Abstract**

In the oil field, conventional wisdom holds that the artificial-lift method of rod lift is suitable only for producing flow rates of 200 STB/D or below and at pump setting depths greater than 4,000 ft. At flow rates greater than 200 STB/D, ESP systems represent the most common lift method, particularly for deep, high-water-cut oil wells.

This traditional view is now being challenged, thanks to the advent of long-stroke pumping units for rod-pump wells. Because these units extend the operating envelope for rod lift, the use of long-stroke pumping units has grown rapidly in recent years and been seen as a viable lift option in wells traditionally pumped by ESPs. In deeper wells (i.e., those exceeding 4,000 ft.), long-stroke pumping units routinely provide superior operating efficiencies compared to ESPs, up to a production rate of 1,500 STB/D.

This presentation reviews field examples in which production in mature wells declined to the point that the existing ESPs were oversized for the well. And because the pumps were at risk for imminent failure, the operator needed to select replacement artificial-lift systems that better suited the current well condition. This presentation compares the operating expenses (OPEX) between the current ESPs installed and a newly designed long-stroke pumping units. The comparison shows that the operator will realize significant financial benefits by choosing the long-stroke pump-ing system for this application, thanks to cost reductions in power, work overs, and inventory.