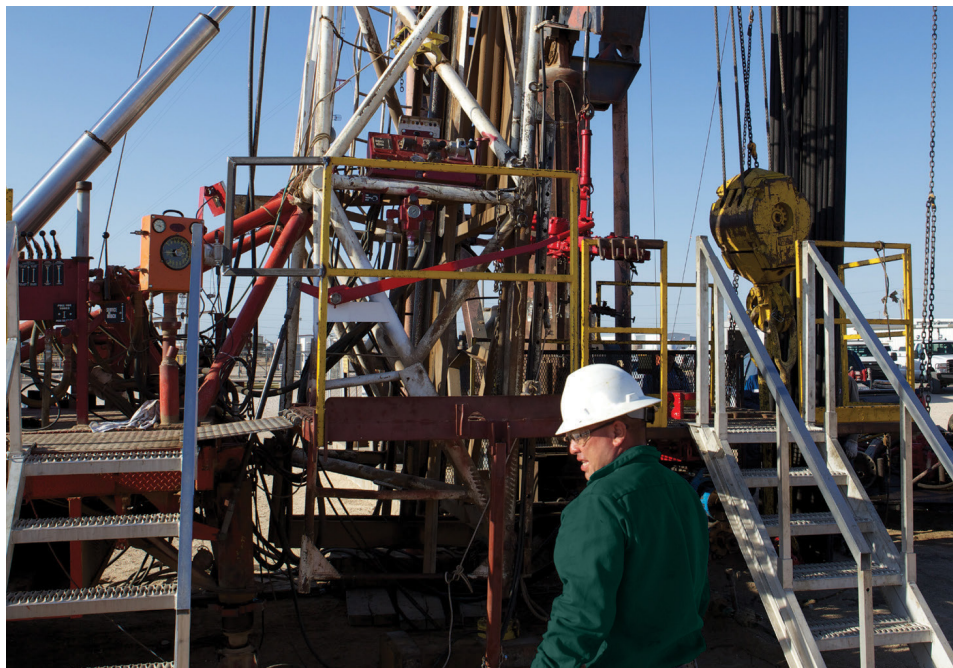


Case study: Wyoming

FLEXPump31 technology produces 3,200 to 400 B/D with single pump



An operator producing a large field in the Parkman formation in Wyoming needed an artificial lift method that could produce the high production rates when wells are brought on line but also handle the rapid production decline in the first six months after initial installation. Previous attempts at using electrical submersible pumping (ESP) systems resulted in multiple workovers to keep production within the limited pump ranges available.

The cost of workover rigs, multiple ESP systems to handle production declines, and downtime during the workovers were making artificial lift costs high. The operator was considering alternative artificial lift methods but preferred a single ESP system that could perform over the life of the well. The ESP system needed to handle both high initial production and lower production after the rapid decline.

FLEXPump™ series pumps have the industry's highest efficiency and widest operating range, providing operational flexibility. The FLEXPump31 technology provides a wide operating range and low hydraulic thrust characteristics. Using a patent-pending stage design, this pump has the highest efficiency and widest production range available in its flow range. When combined with **MVP™ multiphase gas-handling stages**, the FLEXPump31 technology was able to produce for over 11 months with a production range spanning 3,200 barrels per day at initial production to 400 barrels per day during the well's life cycle. The ESP system had over 99% uptime from the single system featuring FLEXPump31 technology and produced more than 125,000 barrels of oil.

Challenges

- Well production declined to less than 15% of initial production in 8 months of operation
- Gas to liquid ratio was over 1,000 scf/barrel
- Fluid level needed to be under 1,500 ft. above reservoir to maximize production

Results

- Single ESP system operated throughout steep production decline
- Avoided costly artificial lift system changeouts
- Only a single ESP-related shutdown in the first 8 months of operation
- Uptime was 99.7%
- ESP produced over 125,000 barrels of oil during its run