

ProductionWave solution replaced hydraulic pump system and increased annual revenue \$3.3 million USD

An operator in Quito, Ecuador had a vertical well with a hydraulic pump system installed in 7-in. casing and set at 9,400-ft. The well operated with 80% water cut and well IP of 0.2 BFPD/psi. Abrasives were present in the fluid and for more than five years, production remained around 500 BFPD with a strong waterflood and high maintenance costs. The old method of operation was adequate for many years, and the operator had a normal routine of using hydraulic pump systems in certain lower-flow-rate wells. Hydraulic pumps had always been the most economic means for production. The operator accepted regular workovers on those wells with abrasives and higher gas-to-

oil ratios (GOR) as necessary for operations. The hydraulic pump system had lower efficiency levels. The operator contacted Baker Hughes, a GE company (BHGE), for more information about an alternative artificial lift method to increase production, handle abrasives, and reduce OPEX.

BHGE recommended the new **ProductionWave™ FLEXible pumping solution**, which incorporates **FLEXPump™ series pumps** designed for lower-flow-rate wells. Applications engineers and the account manager reviewed the operator's goals and requirements for increased production and lower OPEX. The operator decided to purchase the ProductionWave

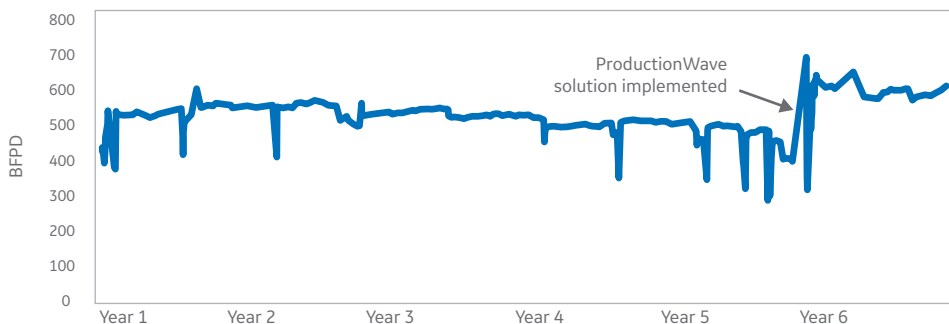
Challenges

- Vertical hydraulic pump system with 7-in. casing, BHT 223°F, and 9,400-ft setting depth
- Abrasives in produced fluids
- High maintenance costs

Results

- Increased overall drawdown of well
- Increased gross production 80%
- Reduced surface facility maintenance costs
- Increased revenue \$3.3 million* USD annually

Gross production increased 80% with the ProductionWave solution





solution with one of the flexible commercial models unique to the system solution. Service was critical for success, and field service technicians ensured smooth system installation. After installation, the operator immediately saw significantly higher long-term oil productivity. In addition to the FLEXPump series pump, the ProductionWave solution included an **Electrospeed Advantage™ variable speed drive (VSD)**, **WellLIFT™ H sensor**, and abrasion-resistant system components.

The ProductionWave solution more effectively handled gas entrained in the fluid, drawing the well down further while maintaining improved stabilized production over time. Increased drawdown reduced reservoir damage and increased gross production 80%. The system continued to operate after 370 days with higher production (> 615 BFPD) and zero workovers. The system accounted for incremental production gains of 90 BOPD and the operator's revenue increased \$3.3 million USD annually.

* Revenue calculated at \$100 USD per barrel of oil

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