

ForeSite® Edge

Boosts Production, Reduces Wellsite Visits 70%, Maintains Pump Fillage Above 70%, Increases Revenue \$40K

Objectives

- Install autonomous control capability and increase production through continuous optimization in two reciprocating-rod-lift wells driven by Rotaflex® long-stroke pumping units. The wells are equipped with variable speed drives (VSDs).
- Leverage high-frequency data to enable remote surveillance and control, trending capabilities, and managing the wells by exception, Improve uptime in each well. They are prone to failure and can only be detected by visual inspection.
- Increase personnel efficiency by enabling remote data monitoring, reducing wellsite visits, and supporting remote well management.
- Leverage existing VSD investments.

Our Approach

- A Weatherford team consisting of production software experts and engineers conducted an optimization analysis. To enhance well visibility and data availability, the team recommended ForeSite Edge—a next-generation controller that leverages high-frequency data and modelling at the wellsite—to be installed alongside each well's existing automation and in addition to the client's enterprise-level ForeSite platform solution.
- Deployed to the field, ForeSite Edge enabled remote monitoring for key performance measurements such as strokes per minute (SPM), pump fillage, effective runtime, strokes per day, and more. This data led to optimization opportunities in each well.
- Autonomous control leveraged high frequency data to optimize the VFD Min/Max frequency while maintaining the target pump fillage. ForeSite Edge then increased production by accelerating speed by step changes.

Value to Customer

- ForeSite Edge delivered autonomous control to two rod-lift wells. High-frequency data enabled production-uplift recommendations that increased production and efficiencies valued at \$40,000 per year, including maintaining pump fillage above 70%.
- Remote management capabilities reduced failures by 15%, or 1.5 pump failures per year that cost \$25,000 per failure.
- Autonomous control enhanced personnel efficiency and reduced wellsite visits by 70%, which saved \$12,000 per year.
- The ForeSite Edge solution leveraged the existing VSD and RPOC, which minimized CAPEX spend.



ForeSite Edge leveraged existing automation equipment to deliver autonomous control, which increased production and efficiencies, including maintaining pump fillage above 70%.

LOCATION

Williston Basin, North Dakota USA

ARTIFICIAL LIFT TYPE

Rotaflex long-stroke reciprocating rod lift

TOTAL WELLS

2

EXISTING AUTOMATION

VSDs

AVERAGE FAILURE RATE

1.5 per well per year

AVERAGE DEPTH

11,500 ft (3,505 m)

PRODUCTS/SERVICES

- ForeSite Edge
- Production optimization consulting

