

# ForeSite® EDGE Increases Oil Gains Over 20% with Autonomous Control Logic

## Objectives

- Maximize production gains while maintaining acceptable economics of mature rod-lift wells by safely increasing production with upgraded, next-generation autonomous optimization solutions.

## Our Approach

- The deployment of ForeSite Edge along with ForeSite enterprise production optimization platform was carried out through a pilot project in a major mature field, focusing on 16 reciprocating rod-lift wells.
- Install ForeSite Edge device alongside each pilot well's existing automation equipment and in addition to client's existing SCADA and optimization platform.
- Autonomous control logics (ACL) were deployed leveraging high-frequency data, pattern matching capabilities, and modeling at the wellsite to autonomously adjust the variable speed drive (VSD) min/max frequencies to sustain and improve production.
- Subsequently, multiple customized autonomous control logics, including a unique ACL for surface unit vibration, were developed to safely operate the rod-lift system by detecting surface and downhole abnormalities

## Value to Customer

- All wells equipped with autonomous control logics reported incremental oil gains. On average, a 20% increase in production was achieved, with one well experiencing a remarkable 50% production increase, resulting in an additional \$350K in revenue.
- The implementation of customized autonomous control logics, including a unique ACL for surface unit vibration, further enhanced the performance of the rod-lift system by detecting abnormalities and optimizing system reliability.
- The vibration ACL proved to be essential in adjusting surface pumping unit speeds based on vibration data, thereby reducing the risk of rod parts and surface unit breakdowns. This not only improved system reliability, but also supported the operator's initiatives in health, safety, security, and the environment (HSSE).
- By incorporating ForeSite Edge into existing automation systems, operators can effectively maximize production, increase efficiency, and optimize well performance in a cost-effective and sustainable manner, which otherwise would not have been achievable with traditional automation equipment.



ForeSite Edge leveraged existing automation equipment to deliver autonomous control, increasing production and efficiencies.

### LOCATION

Canada

### WELL TYPE

Reciprocating rod lift

### PRODUCTS/SERVICES

- ForeSite® EDGE
- ForeSite® Production Optimization Platform
- WellPilot® Controllers for Rod Pump Optimization

