CASE STUDY

HALLIBURTON

North Dakota, USA

Intelevate® platform boosts ESP runlife 51% across North Dakota field

Customer-specific optimization team and monitoring playbook deliver a comprehensive approach to optimize reliability and production

CHALLENGE

- Improve ESP uptime and run life
- Manage extreme Bakken conditions: gas, heat, solids
- Reduce premature ESP failures
- Standardize monitoring and intervention

SOLUTION

- 24/7 real-time monitoring with the Intelevate® digital platform, powered by the Summit Knowledge® digital ecosystem
- Technical evaluations and KPI tracking
- Customized monitoring playbook
- Troubleshooting workflows for critical events

RESULT

- Increased ESP run life 51%
- Improved uptime to 96.5%
- Reduced premature failures 64%
- Completed 70,000 remote interventions

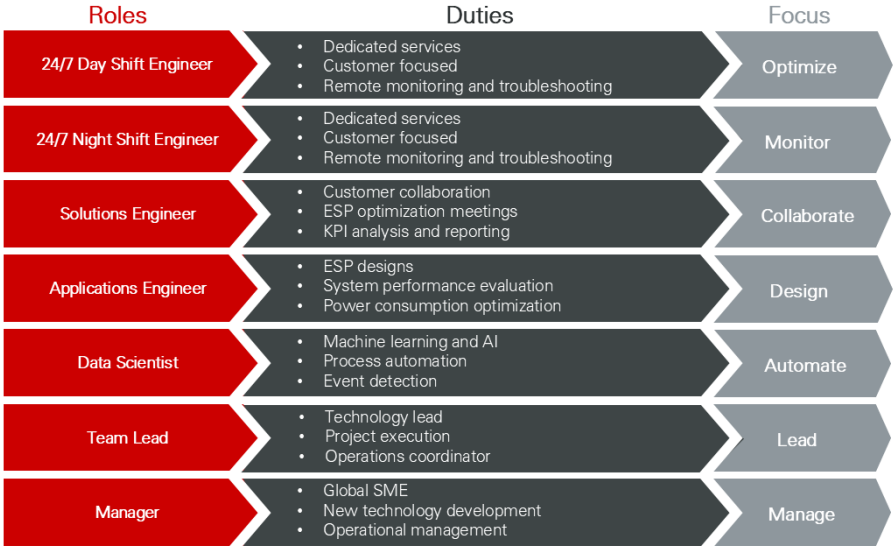
Overview

A North Dakota operator with more than 500 electric submersible pump (ESP) wells in the Bakken Formation faced challenges in maintaining equipment uptime and extending ESP run life. The region's unconventional wells created tough challenges, including high gas-oil ratios, elevated bottomhole temperatures, and heavy sand production.

Challenge

The operator needed to improve ESP reliability and reduce premature failures. Without standardized monitoring and intervention protocols, field team responses lacked speed and consistency. Limited real-time data and fragmented workflows hindered proactive equipment management and production optimization.

Solution

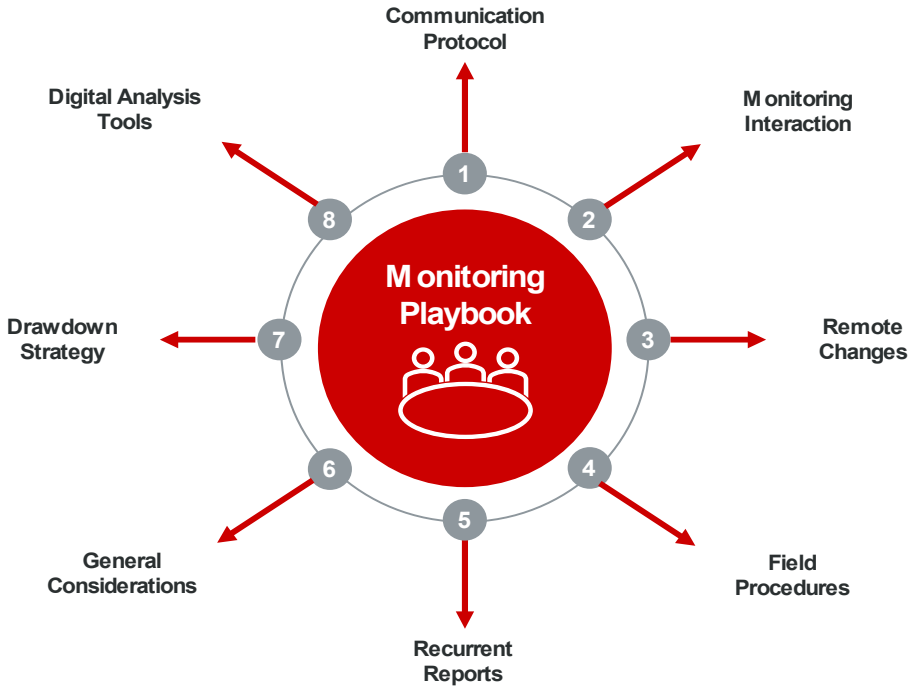


SUMMIT ESP

A HALLIBURTON SERVICE

Solution

To address these challenges, the operator collaborated with Halliburton to deploy a dedicated Intelevate digital platform surveillance team. This team of engineers and data scientists provided 24/7/365 real-time monitoring, technical evaluations, and remote diagnostics. Five core functions underpinned the program: continuous monitoring, engineering analysis, direct communication with field personnel, monthly KPI reviews, and reliability assessments. A customized monitoring playbook was developed to standardize operations and define best practices for communication, intervention, and digital tool usage. The playbook included protocols for drawdown strategies, remote workflows, and field adjustments. Engineering teams also created troubleshooting workflows to address critical events such as high-temperature shutdowns and no-flow conditions. These workflows targeted root causes of thermal cycling, including gas interference, solids influx, and fluid recirculation, to prevent damage and extend ESP life.



Result

The operator achieved significant improvements in ESP performance across more than 500 wells. With the support of the Intelevate digital platform and a structured monitoring playbook, ESP run life increased from 228 to 345 days, a 51% improvement. Uptime rose from 94.4% to 96.5%, while premature failures dropped from 30.6% to 11.1%, representing a 63.7% reduction. Remote engineers and field technicians executed more than 70,000 remote interventions. This action doubled the annual intervention rate and facilitated faster, more consistent responses to performance deviations. Fault analysis confirmed a 48% reduction in high motor temperature shutdowns compared to other Bakken operators. This result reflects how continuous monitoring and disciplined execution protocols improve equipment reliability and boost production performance.