

Case study: Permian Basin, Texas, United States

ProductionLink delivered significant cost savings with proactive surveillance of ESPs

A customer in the Permian Basin, West Texas, has used the **ProductionLink™ Expert artificial lift monitoring service** for real-time transmission and monitoring of electric submersible pump (ESP) operational data to optimize production performance. Recurrent shutdowns due to power issues were increasing costs and nonproductive time (NPT). The service included a software platform, which enables condition-based remote monitoring of multiple wells, smart alarming based on predictive and diagnostics analytics, and an effective response to avoid costly well interventions. It facilitated real-time communication and collaboration between engineers to ensure timely actions were taken based on prevailing operational conditions.

Customarily, the setpoint changes in the variable speed drive were made on-site, either by the customer's or Baker Hughes field personnel. In a 24-hour timespan, the customer attempted three unsuccessful on-site restarts. Looking for a solution, the customer contacted Baker Hughes. A ProductionLink Expert engineer determined the root cause of the recurrent shutdowns, and provided setpoint change recommendations and technical support to restart the unit. By employing Baker Hughes's recommendations, the unit was successfully restarted. The surveillance team reduced ESP downtime, saved repeated field service trips to the location and minimized health, safety and environmental (HSE) risks.

The flawless performance and recommendations of the ProductionLink Expert service have proven effective. As a result, in less than 30 days, the analyst made remote changes that saved this well from shutting down on high motor temperature caused by gas slugs. Remote setpoint changes made using the ProductionLink application have reduced the customer's operating expenditures (OPEX) and increased oil production of this well. The customer saved \$57,061 by NPT avoidance within 24 hours and is expected to save \$6.8 million in a year on four wells with remote interventions.

The ProductionLink Expert service provided the visualization tools and ESP expertise to remotely optimize power and gas-related operational issues. This solution has reduced on-site troubleshooting and optimization, which has significantly reduced costs and increased oil production. The ProductionLink platform combines Baker Hughes expertise in oil and gas and advanced digital technology to provide customers with the best real-time solutions to deliver maximum economic benefits throughout the asset lifecycle.

Challenges

- Optimize production of unconventional wells
- Minimize frequent cycling due to power issues
- Reduce NPT

Results

- Saved \$6.8 million by minimizing NPT
- Increased oil production by 35% with proactive interventions
- Extended pump life by eliminating unplanned ESP shutdowns
- Reduced HSE exposure by minimizing the need to travel to and from the well site, high-voltage, and hydrogen sulfide (H₂S) exposure