

Lift IQ Service Prevents ESP Failure After Pipeline Event, Saving Alianza Casabe USD 307,000

Real-time surveillance service detected deadhead event while monitoring downhole pump performance, enabling adjustments that minimize deferred production

CHALLENGE

Reduce deferred production and prevent ESP failure after an unscheduled pipeline closure.

SOLUTION

Monitor ESP operations remotely with the Lift IQ* production life cycle management service to analyze pump performance, determine likely cause, and recommend on-site action to avoid shutdown.

RESULTS

Saved USD 307,000 by preventing shutdown, deferred production, workover intervention, and replacement of the main BHA components.



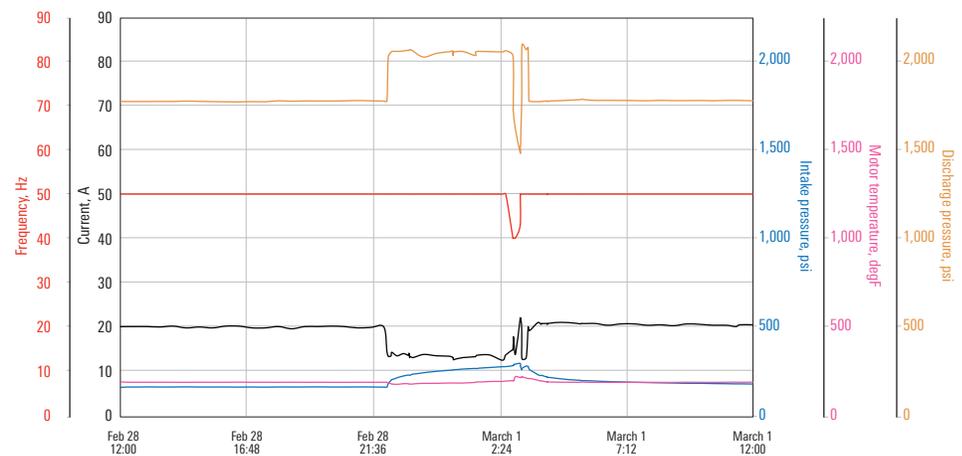
Unscheduled pipeline closure threatens artificial lift system

An unscheduled closure of a wellhead pipeline on February 28, 2017 caused a deadhead event at an Alianza Casabe well in Colombia and put the artificial lift system at risk. The pipeline closure halted surface flow and caused an increase in pressure at the Casabe 1075 wellhead while the electric submersible pump (ESP) system’s centrifugal pump continued to operate. A deadhead event can cause failure of the lifting system through excessive downward thrust on the ESP, overheated motors because of fluid accumulation in the casing that effects the heat transfer, or burst pressure. Generally, an ESP will automatically shut down in this situation, which will halt production but prevent failure and workover of the well.

Lift IQ service analyzes pump remotely, informs solution

The ESP system — which had been installed 77 days earlier — did not shut down or fail because Alianza Casabe was using the Lift IQ service in the wells with the most challenging environments in the Casabe field. The service delivers round-the-clock remote surveillance of all artificial lift systems, preventing or resolving ESP downtime, misuse, or failure. Experienced engineers monitor alarms and analyze data transmitted from multiple wells across fields simultaneously in real time, up to 24/7/365, at one of many Schlumberger Artificial Lift Surveillance Centers (ALSCs).

When ALSC engineers receive alarms and alerts, they use their expertise, experience, data resources, and Schlumberger best practices to identify possible causes and remediation options.



The Lift IQ service reported the increase in discharge pressure and drop in amps, which notified the ALSC engineers of the deadhead event at the well. They were then able to notify the Casabe field staff of the event, who took on-site action to restore the well to normal operation.

Well production restored swiftly

When the engineers monitoring the Casabe 1075 well saw a spike in discharge pressure and a drop in amps, they knew an event had taken place at the well; the restricted flow rate caused an increase in temperature and intake pressure, all of which indicated a deadhead event. The engineers notified the Casabe field staff of the deviations, enabling them to make rapid changes at the tubing head valve based on the data that provided a real-time diagnosis. The ALSC engineers continued to monitor the situation remotely and were prepared to shut down the well if necessary to avoid premature failure.

Armed with the knowledge from the Lift IQ service, the field personnel released the surface pressure of the well through the surface production valve, which restored normal operational values and prevented ESP failure and well intervention. Alianza Casabe saved approximately USD 307,000 by avoiding shutdown, deferred production, workover intervention, and replacement of the main BHA components. The event took less than 5 hours to remedy as opposed to the days that could have been lost had the ESP system failed.

slb.com/liftiq