

Advanced Analytics for Autonomous Rod Pump Management

RESULTS

- Advanced analytics delivered action-based changes to greatly improve efficiencies of production and support long-term gains
- Successfully maintained pump strokes per minute to set points by autonomously resolving issues (ie; valve, stuck pistons, etc...)
- Accelerated "Operate by Exception" initiatives across organization
- Proven autonomous actions to support high growth goals and adapt to shortage of qualified skilled labor availability

APPLICATION

Zedi Autonomous Rod Pump Management
Zedi Cloud SCADA Platform
Zedi Access and Zedi Go mobile app
Zedi Advanced Analytics, machine learning and AI

CUSTOMER

Fast growing United States oil & gas production company

CHALLENGE

Lack of enough skilled labor to simply maintain current oil and gas production was a nightmare with limited skilled labor and always increasing rod pump performance issues at problematic well sites.

Detecting and defining rod pump challenges itself was eating away too many people hours, wasting resources of every type and adding frustration to the limited staff to the point that other 'Operate by Exception' projects were put on hold until higher return could be found and fully proven.

Desired better visualization tools to better prioritize and schedule well maintenance and work needed and in more of a timely manner to reduce downtime. High increases needed in run time, and reduction in gas interference, fluid pounding and gas lock were needed to achieve lofty production and growth goals.



"Seeing was believing! What was a far-fetched dream of a rod pump being able to correct, protect and even FIX itself a few short years ago is now a reality and making a huge impact to our bottom line in big returns."

United States oil & gas production company
- Senior Director, Production

SOLUTION

Zedi Autonomous Rod Pump Management was implemented on several separate well sites to successfully provide advanced rod pump analytics, anomaly detection and correction on problematic wells. Success was quickly realized with high accuracy rates that in-turn increased overall production.

Problematic, yet high promising sites were addressed first based on the potential impact they could quickly serve to overall increases.

This rapidly resulted in powerful increases of BOE and asset performance by presenting anomaly detection, and correction of many issues the pump faced that was outlined as a 'learned' process from the operations historical fixes that supplied faster, consistent and much more efficient pumping.

Zedi Autonomous Rod Pump Management provided advanced analytics through machine learning and artificial intelligence that are providing the Customer's production engineering people with better insight to pump performance for better management of scheduled maintenance and deciding on how to prioritize for those limited available maintenance people and time availability to get to remotely located sites.

In addition, several POCs with set emergency shutdown thresholds remain in place and active, while taking advantage of autonomous features that simply 'guide' the POC, instead of overwriting it's safety benefits the company was confident in using.

Emerson's Zedi SaaS Cloud provided authorized users and select groups within the organization based on role with communication architecture for data to be polled via a secure VPN. Custom dashboards reports are now sent at set intervals to authorized and specified users.

Vast gains in production have now consistency re-opened the doors (and budget) to other 'Operate by Exception' company projects that were once on hold until higher rate of return and proof that these types of projects were adding value at multiple levels of the organization.



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