



Oil and Gas Case Study

Exploration and Production Company Overview

Qualex Consulting Services has been working with the Upstream Division of a supermajor Exploration and Production Company on projects using predictive analytics to ensure the deep water offshore rigs continue producing barrels of oil in the Gulf of Mexico.

Qualex Initiatives and Involvement

There are two main initiatives Qualex has undertaken:

1- Developing an analytical modeling solution to predict unusual conditions and problems prior to their arrival and then sending alerts to engineers with a lead time for intervention. Qualex uses SAS software and real time data inputs to reduce unplanned deferment and avoid deterioration of wells and caissons. The main goal is to issue warnings and alerts of future events, doing this requires that we analyze real time data, and create a predictive early warning model. The benefits are in knowing that potential problems are on the horizon with the time to mitigate them, as well as reporting results to track trends and effectiveness.

2- Developing an Electric Submersible Pumps "ESP" performance, condition monitoring and alerting system for rig operations, including predicting the ESP's end of usable life. Qualex is partnering with SAS Institute and using SAS software to extend the lifecycle of ESP's. The goal is to detect when the ESP's are operating outside of an acceptable efficiency window and send alerts of the deviations with the primary causes of the efficiency deviation. Additionally all information is published to a Portal for reporting and reviewing. Predicting the end of the ESP's usable life will give the rigs scheduling and planning options while reducing production losses. Having a 60 - 90 day warning of production equipment failures greatly impacts the financial losses associated with unplanned deferments.

Outcome and Results

Qualex Solutions provide operations with useful information to manage their production systems and keep the barrels flowing.

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