Use Case: The ESP Problem

Background:

An Oil and Gas company had made a large investment in Electrical Submersible Pumps (ESPs) for their wells. These ESPs, however, were experiencing a high level of mechanical failure caught only after the wells stopped producing, leading to unplanned downtime.

This company came to us and wanted a tool that could perform continuous analysis of ESP well data generated via remote sensing to provide ongoing insight into their performance, and provide timely insights ahead of any future failures. That way, any mechanical issue could be addressed before the ESPs actually failed.

Could Alluvium Primer catch leading indicators of the ESP failures?

Primer Output:

As an initial test, the Company used historical well data from known failures. In all cases, Primer was able to correctly identify the times and source of the pump failures.

For example, Primer successfully identified the known failure in the system happened on December 21st. In addition, Primer identified that the system was unstable December 15 - 16 because of deviations in the performance of key variables.
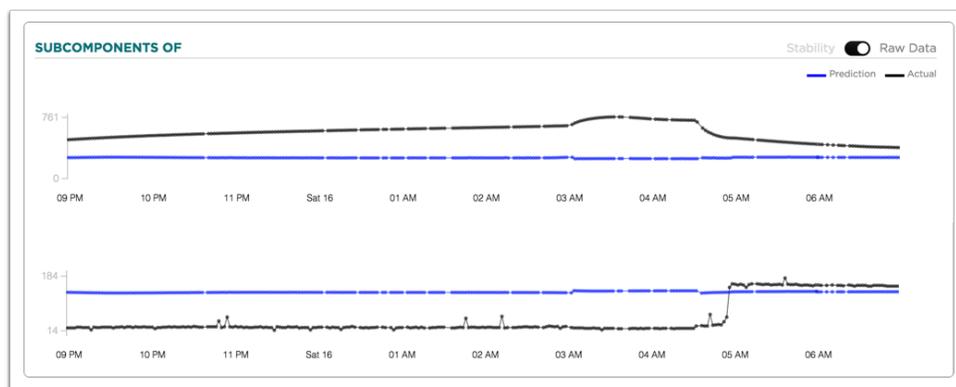
Key Results:

By using Alluvium Primer, this O&G company was able to quickly analyze past ESP failures to identify the source and timing of those failure.

Primer is designed for both on-demand and integrated real-time operation monitoring. In this case, by analyzing previous failures for each well, Primer was able to learn the patterns in the data that could help predict future issues and prevent downtime. Now, when the company imports more data into the system, Alluvium Primer will use their labelled data from this analysis and return even smarter alerts in the future.