THE KEN WELL MANAGER: AN ADAPTIVE CONTROLLER FOR DYNAMIC DEVIATED WELLS

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ABSTRACT

Most current pump-off control devices function using theory and technology developed in the 1970s, when “vertical” wells were more prevalent. For communications, costly mesh radio networks are installed in conjunction with SCADA host programs to allow for data acquisition, requiring expensive infrastructure and constant maintenance.
Most importantly, there is a growing industry-wide need for systems that no longer assume perfectly vertical wellbores and respond accurately to today’s crooked hole dynamics with extensive gas interference issues.
Also, the processing power limitation of the current industry standard practice will not allow for the algorithm to be implemented to solve the issues at hand. Hence, a cloud-based approach is necessary to overcome today’s optimization shortcomings.

The Ken Well Manager from WellWorx Energy Solutions was developed to address the changing needs of the industry. The cloud-based approach enables the use of state-of-the-art diagnostic models and augmented control modes to better remedy the challenges associated with unconventional wells.

Advances in modern technology allow for the system to be designed utilizing an industrial edge computing platform combined with cutting-edge technology and cellular communication. This system is designed to work in conjunction with a SCADA host system but does not depend on one.

This new POC improves the current optimization practice by enabling direct access to real time data and a view of downhole conditions. This live interface allows for real-time changes at the well site such as intra-stroke speed chance, reset malfunctions, pump action verification, and counterbalance optimization opportunities using real time VFD outputs.

This presentation will showcase the commissioning and set up process for the Ken Well Manager pump off controller and/or integrated variable frequency drive package. Future functionalities/ control methodology and multi-products roadmap will be discussed as well as current customer feedback.