Pason Mud Analyzer Case Study

Operator Success in West Texas

Pason's Mud Analyzer is the first cost-effective, reliable, and accurate solution for real-time drilling fluid measurement. It provides continuous measurement of drilling fluid density (every second), temperature (every second), and rheology (every 15 minutes). It can be used for both oil and water-based drilling fluids. The compact (5' x 4' x 3') unmanned unit is installed adjacent to the suction tank, requiring no design changes to the rig's existing mud system and no additional capital investment or incremental service personnel.

Cost Savings

One of the largest operators in the Permian Basin has been utilizing the Mud Analyzer on a portion of their drilling fleet for over a year. During a 6-month period, the operator realized significant cost savings on five rigs equipped with the Mud Analyzer compared to their other rigs drilling in the same area, including:

- A 16% overall reduction in drilling fluid costs
- Reduction of over 1 million gallons of diesel for drilling fluid needs
- Introducing real-time KPIs led to performance gains in mud costs and dilution rates

Performance Gains

The customer realized another 5-10% reduction in costs due to earlier and less intense fluid intervention techniques, a reduction in non-productive time, immediate detection of water flows, and an increase in overall drilling performance.

Benefits include:

- **Enhanced Hole Cleaning:** Real-time measurements enable precise tracking of rheological properties, ensuring optimal hole cleaning efficiency.
- **Increased Borehole Stability:** Real-time density measurements minimize fluid density deviations, enhancing borehole stability.
- **Reduced Downhole Tool Failures:** Alarms for contaminant detection prevent tool failures, reducing non-productive time.
- **Consistent NAF Properties:** Improved consistency in non-aqueous fluid (NAF) properties, especially beneficial for extended reach laterals.

The customer has implemented the Mud Analyzer across their entire US fleet, spanning multiple basins. Their remote operations center utilizes the data for real-time decision making and to ensure fleet consistency. Data is fed into hole cleaning models to calculate real-time ECD measurements while drilling, and solids control data is combined to evaluate mud conditioning needs and solids removal.