DATA SHEET

HALLIBURTON

Automation Solutions

LOGIX™ drilling performance optimizer

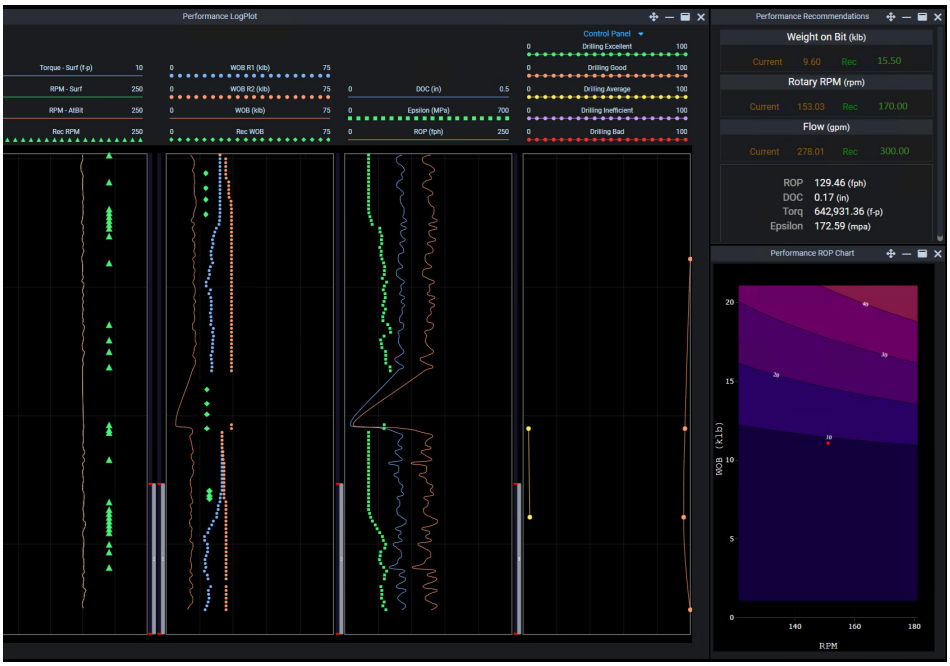
Faster production and reduced rig time

BENEFITS

- Provides optimum drilling parameters to increase rate of penetration (ROP)
- Prevents drilling dysfunctions and reduce bit wear
- Consistently optimizes drilling performance and improves service delivery
- Enhances drilling efficiency and reduces well time

FEATURES

- Detects drilling dysfunctions and provides automated alerts
- Incorporates automated self-calibration model, and updates drilling operating envelope in real time
- Enables offset well analysis and updates drilling roadmap in real time
- Includes BHA and rig limits to prevent BHA and rig equipment damage
- Calculates apparent rock-strength and detects formation change to enhance subsurface insights
- Executes from remote centers or at the rig site



LOGIX™ drilling performance optimizer dashboard

Overview

The LOGIX™ drilling performance optimizer is an autonomous drilling parameters management system that uses advanced machine learning algorithms to determine the optimal operations envelope. The service maximizes ROP with the mitigation of undesired drilling dysfunctions, improves operational efficiency with the extension of BHA life, and reduces well delivery time with the optimization of drilling practices.

For a closed loop integrated autonomous drilling system, the LOGIX™ drilling performance optimizer runs with the Auto Steer and Collision Alert services of the LOGIX™ automation and remote operations to reduce operational risk and uncertainty and deliver accurate wells in a reliable, repeatable and consistent way.

Maximize ROP

The LOGIX™ drilling performance optimizer maintains the optimal drilling parameters to maximize ROP. The key differentiator is the processing of real-time data through physics-based models and machine learning algorithms to detect formation change and bit-rock characteristics.

Improve operational efficiency

The LOGIX™ drilling performance optimizer calculates bit wear and detects premature bit damage with physics-based models calibrated in real time. The bit-rock model allows accurate detection of performance changes and determines their causes. The service recommends optimal drilling parameters to manage bit dysfunctions, such as bit balling due to hole cleaning issues. The optimized drilling parameters maintain a balanced bit-rock interaction that enhances steering performance and maximizes bit life. This reduces premature BHA trips and improves operational efficiency premature BHA trips and improving operational efficiency.

Reduce well delivery time

With the accurate estimation of depth-of-cut, state-of-bit wear and formation characteristics, the depth-of-cut, state of bit wear and formation characteristics, the LOGIX™ drilling performance optimizer determines the optimal drilling parameters to maximize ROP, and maximize on-bottom time. During the planning phase, the service analyzes offset well data to determine a drilling roadmap. During execution, the roadmap is updated with real-time data and machine learning to determine the safe operations envelope to ensure BHA integrity and avoid service interruptions. The LOGIX™ drilling performance optimizer reduces well delivery times and enables operators to accelerate time to production.

For more information, contact your local Halliburton representative or visit us on the web at www.halliburton.com