



FLEXB2D[®] 2.0 TECHNOLOGY

ACHIEVE CONFIGURABLE AND CONSISTENT BIT AND BHA ENGAGEMENT

Staging drilling setpoints after tagging bottom is often inconsistent and can cause drilling dysfunction. H&P transformed this common multi-step task into an automated and configurable process with FlexB2D[®] technology. Now, with FlexB2D 2.0 operators can realize even more efficiencies than were available before.

FlexB2D 2.0 technology performs automated zeroing of the weight-on-bit (WOB) and differential pressure setpoint and helps ensure proper contact with the formation. Automated, configurable, consistent bit engagement ultimately reduces BHA failures and decreases time to target.

2.0 Enhancements

FEATURES	ADVANTAGES	OUTCOME
Full stand control	Return to bottom from any point during a stand after engaging bottom (sliding or rotating), improving back to bottom times and lessening exposure to manual bit engagement variances	Off bottom time, well cycle time, and BHA failure is decreased
Survey on the fly	Decreases flat time/off bottom time spent waiting for surveys before drilling operations can resume	Reduced time to target saves money
Off bottom RPM reduction	Automatically slows the top drive to help prevent harmful drillstring vibrations	Lower well cycle times due to fewer unplanned trips caused by premature bit/BHA failures

Reduces Failures and Repairs

- Lowers risk of damaging downhole tools by reengaging the bit in a controlled and repeatable manner
- Reduces torsional and lateral vibration
- Automated zeroing helps ensure accuracy and consistency

Lowers Operational Costs

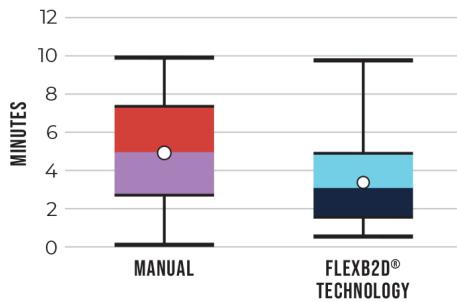
- Less costly bit and BHA issues
- Improved consistency drives lower cost per foot
- Avoid unplanned trips

Accelerates Well Programs

- Automated staging to 9 operator defined drilling setpoints ensure consistent execution
- Reduce transition times from connections to full drilling rates

Reduces Human Variability

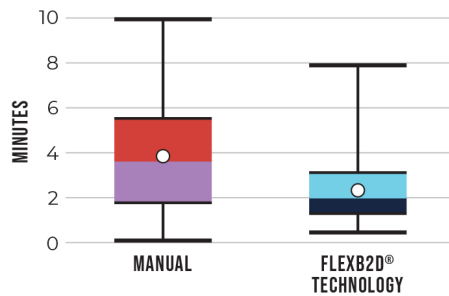
Repeatable Results Enable Optimal Outcomes



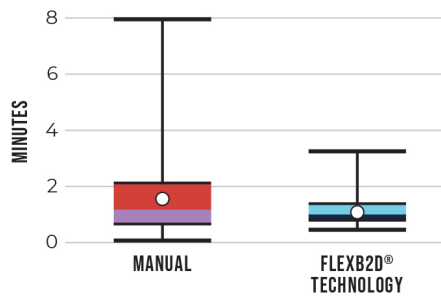
Compare the difference between Manual and FlexB2D[®] technology in both average back to drilling time (rotation to on-bottom drilling) and standard deviation. Automating the multi-step task not only shortens the amount of time it takes, it also reduces variation among all occurrences.

FlexB2D[®] 2.0 Technology Performance Improvements Across All Districts

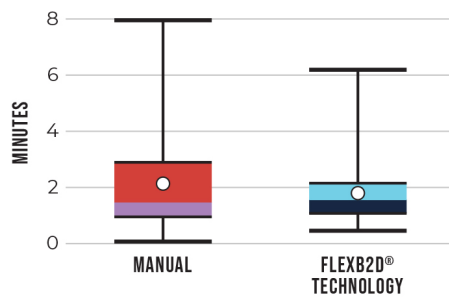
WEST TEXAS – DELAWARE BASIN



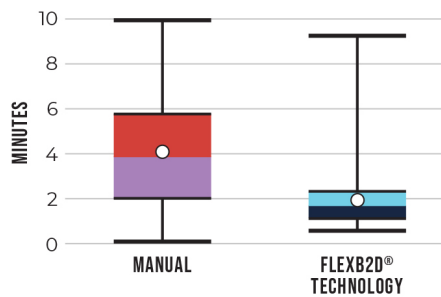
NORTH DAKOTA – BAKKEN SHALE



SOUTH TEXAS – EAGLE FORD SHALE



MIDCONTINENT – MERAMEC SHALE



CONTACT US

For more information on how FlexB2D 2.0[®] technology can help you achieve better drilling outcomes, contact an H&P sales representative today or contact us through our website at helmerichpayne.com/contact.