

INTEGRATED DRILLING SOLUTIONS BREAK RECORDS WHILE REDUCING OPERATOR'S TIME TO TARGET

Operator Sees Roting ROP Improvement of 132%, Slide ROP of 53%

Challenge

Drilling for gas in the Haynesville presents unique challenges such as high pressure/high temperature and abrasive environments — both of which can increase costs for gas-drilling operators.

The operator was looking for technology solutions that could reduce erratic cycle time performance and provide more reliable well data to plan for future operations.

Solution

In addition to H&P's award-winning FlexRig® fleet, the operator utilized a custom package of H&P's technology offerings.

H&P has an advanced suite of automation software applications that layer on top of the FlexRig fleet drilling control systems and provide for machine and human collaboration during the drilling process to improve efficiency. The operator used a combination of three of these technologies:

- **FlexTorque® Technology:** A hardware and software combination that offers less drilling vibration, lowers cost and yields more wells for higher reserves and production.
 - **FlexB2D® Technology:** A software solution designed to improve efficiency and connection times while also maximizing bit/BHA life by reengaging the bit in a controlled and repeatable manner.
 - **FlexOscillator® Technology:** A rig control software that automates drillstring rotation, reduces drag and decreases costly incidents of stuck pipe.
 - **Bit Guidance System:** In addition to the technologies listed above, the operator used H&P's Bit Guidance System to steer the bit in real time. The system uses task automation, forward modeling and automated decision-making to guide the driller for more accurate well-bore positioning while drilling horizontal wells.
- The technology improves overall operating economics by lowering well construction costs, reducing future lifting costs and increasing hydrocarbon production potential.
- **AutoSlide® Technology:** This operator was the first to use AutoSlide technology in the Haynesville Shale. The system works together with the Bit Guidance System, receiving the sliding instructions and automatically orienting and holding toolface by controlling the rig equipment while executing the slide, in a true single-button execution.

AutoSlide technology reduces on-site personnel by utilizing a remote operations center, where the directional driller provides recommendations to multiple rigs.



PROJECT OVERVIEW

Location

Haynesville Shale, Panola County, East Texas

Outcomes

- Increase Reliability

Technology & Services

- Bit Guidance System
- AutoSlide® Technology
- FlexTorque® Technology
- FlexB2D® Technology
- FlexOscillator® Technology

Are you looking to achieve a similar outcome?

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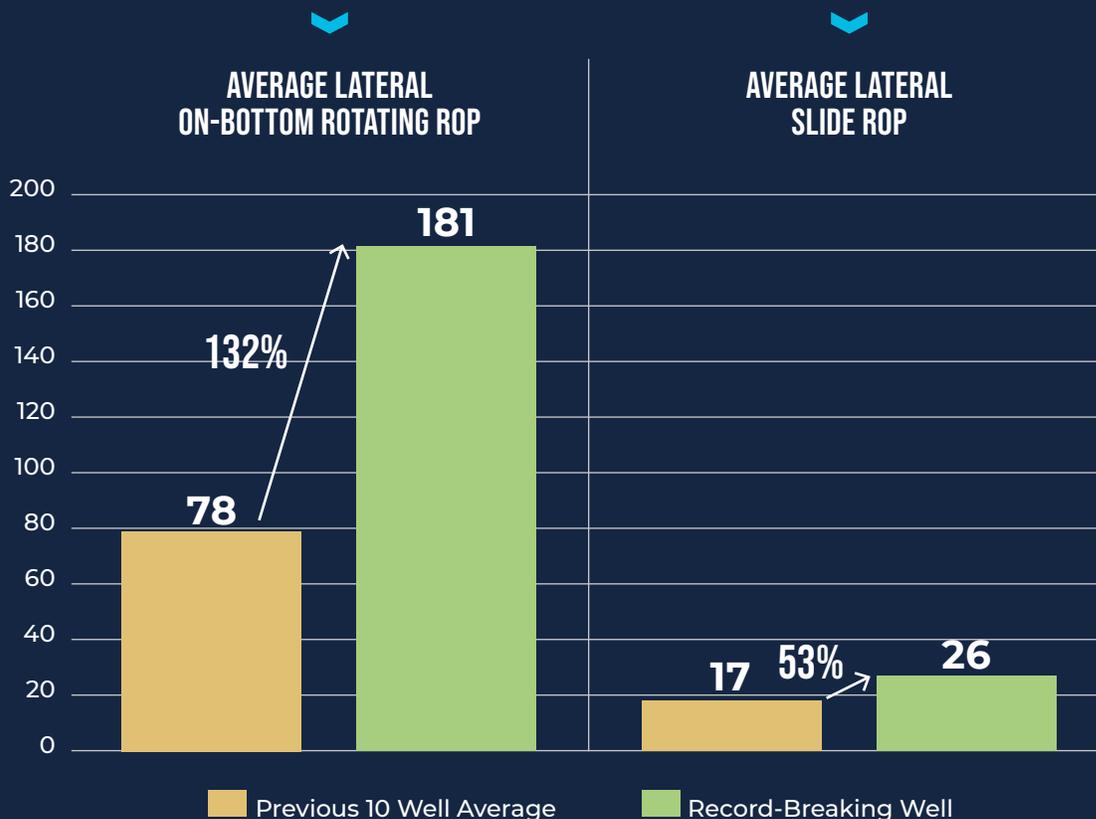
Outcomes

By integrating holistic, automated solutions with advanced rig configurations, the operator drilled a record-breaking well.

AutoSlide technology was used for 88.5% of the lateral section. Significant increases were seen in both lateral on-bottom rotating rate of penetration (ROP) and lateral slide ROP when compared to the previous 10-well average values, indicating to a significant improvement of 132% and 53%.

These improvements translated to less days on well, which not only saves money, but also may allow for more wells to be drilled over the course of a year.

Based on this success, the operator has added technology packages, including AutoSlide technology, to additional rigs.



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