



Case study: North Dakota, Williston Basin

# DuraMax improved drill time by 40% and ROP by 35%

40%

Improvement in drilling time

35%

Increased ROP

2

Days drilling time saved

An operator in North Dakota's Williston Basin was developing a lateral Three Forks well. Drill bit consumption was reducing performance, with 8 drill bits damaged on 14 previous wells. Baker Hughes had been using the Baker Hughes 5-in. **Xtreme eXtend motor** with various bits with reasonable success but experienced moderate vibration levels, impacting measurement while drilling (MWD) reliability.

The Baker Hughes team decided to use its new 5-1/8-in. **DuraMax™ motor** with the Baker Hughes **Dynamus™ extended-life drill bit** to reduce vibration and improve production and ROP. This proved to be a winning combination. The team completed the lateral section 2 days faster than with offset wells, a 40% improvement. This combination also helped to reduce the vibrations by 20% to help complete the section in a single run.

Baker Hughes drilled a 6-in. lateral of 10,294 ft (3138 m) in 46.3 drilling hours—a record performance—on the first attempt. The total time from the pick-up to the lay-down of the BHA was 3.3 days. This compared favorably to the operator's average Three Forks well time of 5.2 days and 68 hours per 10,000 feet (3048 m) drilled. Drilling days were reduced by 40% and ROP increased 35%.

Lateral section days vs depth

