

# HG Energy II Appalachia and BHGE partnered to achieve world record drilling in NE US

Baker Hughes, a GE company (BHGE), has been consistently drilling “mile-a-day” wells in the Marcellus and Utica shale plays. From 2015 to the end of August 2018, BHGE has drilled more than 200 wells in the Northeast US where the footage drilled exceeded a mile (5,280 ft) in less than one 24-hour period.

HG Energy II Appalachia, enlisted BHGE to help reduce their days on well and quickly achieve peak drilling performance—maximizing rates of penetration (ROP) while still achieving smooth, high-quality wellbores. Working with the HG Energy II Appalachia team, BHGE proposed a drilling solution that minimized nonproductive time (NPT) and significantly accelerated drilling speed and efficiency.

The BHGE solution paired an **AutoTrak™ Curve rotary steerable service (RSS)** with the **Navi-Drill™ Ultra™ XL45 high-performance drilling motor** and a customized **8½-in. Talon™ Force high-velocity PDC drill bit**. The team selected the AutoTrak Curve RSS based on its ability to consistently drill accurate, smooth wellbores that simplify casing runs. Adding the XL45 motor increased torque and RPM at the bit to optimize drilling performance. The high-velocity drill bit, which incorporated **StayTrue™ shaped**

**diamond element technology**, helped to mitigate lateral vibrations and bit whirl. StayTrue technology leverages a unique chisel shape and an engineered cutter placement that eliminates the operator’s need to sacrifice bit life in order to gain drilling speed.

Working closely with the customer, BHGE set a single target inclination for the AutoTrak RSS to hold throughout the run—effectively reducing the downlinks needed to stay in zone enabling a more sustainable, consistent pace.

Remote reservoir navigation services assisted HG Energy II Appalachia’s geology team to keep the well in the target zone and achieved 100% net-to-gross across the entire lateral.

Extensive pre-planning, pre-pad meetings and leveraging night remote measurement-while-drilling (MWD) support helped to maximize operational efficiency.

This team approach achieved an on-bottom ROP of 485 ft/hour and drilled 9,055 ft in a single, 24-hour period. This is believed to be a world record for 24-hr footage. The entire lateral (7,300 ft MD to 16,446 ft MD) was drilled in 1.04 days. The curve and lateral were drilled in 3.64 days—1.86 days below the plan of 5.5 days reducing drilling costs by 35%.

## Challenges

- Reduce overall drilling days and costs
- Create smoother wellbores and simplify casing runs
- Stay in target zone
- Accelerate the customer’s learning curve in the region

## Results

- Integrated drilling system drilled a world record 9,055 ft in 24 hours
- Stayed in the target zone through 100% of the lateral
- Saved 1.86 days drilling the curve and lateral
- Reduced drilling costs approximately 35%

[bhge.com](http://bhge.com)

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