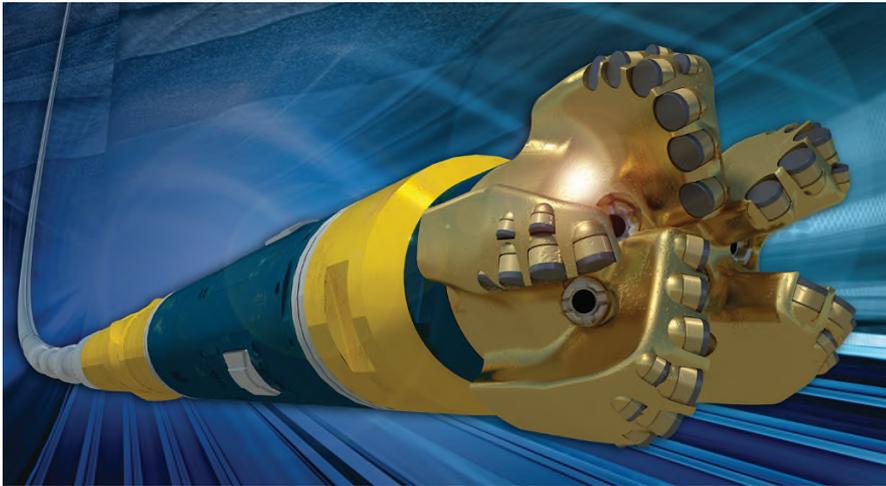




**LOCATION:** WASHINGTON COUNTY, PENNSYLVANIA

## 7-in. Navi-Drill Ultra HP Series Motor with AutoTrak Curve RSS Drilled Fastest NE Well



The AutoTrak™ Curve rotary steerable system (RSS) is the go-to tool for CNX to drill the smoothest wellbore possible, increase performance, and ease casing runs in its long Marcellus shale laterals.

Since January 2017, Drilling Services and Drill Bits teams from Baker Hughes, a GE company (BHGE) have used the AutoTrak Curve RSS, paired with a 6 ¾-in. Navi-Drill™ Ultra™ XL/LS motor, to drill six “Mile-A-Day” wells with CNX, significantly reducing rig time and drilling costs.

Wanting to continue to push the performance of the drilling equipment being used in the Marcellus shale, the operator and BHGE worked together on an optimized well plan that included a bottomhole assembly pairing the AutoTrak Curve RSS with a 7-in. Navi-Drill™ Ultra™ XL45/RS-HP motor. This is the highest performance motor in the 6 ½-in. to 7-in.

size range, providing greater horsepower, more torque at the bit, and higher differential pressure, which helps enhance rate of penetration—performance gains that add up to drilling cost savings in the 8 ½-in. curve and lateral sections.

This powerful combination of motor and RSS resulted in the fastest well drilled in the Northeast, not only for CNX: 7,380 ft (2249 m) in a 24-hour period.

The 8,396-ft (2559-m), one-run well reached total depth in 1.9 days, with an average on bottom ROP of 215 ft/hour (66 m/hour) contributing to the overall pace of 5,171 ft/day (1576 m/day).

The BHGE Remote Navigation team worked closely with CNX’s geology team to obtain an 85.6 in-zone percentage, all while acclimating to the new challenges of drilling with the XL/45 motor. All

### Results

- Drilled well from kick-off point to total depth in 1.9 days
- Reduced time on well by 13% over previous well drilled on same pad

### Challenges

- Design optimum bottomhole assembly to decrease days on wells

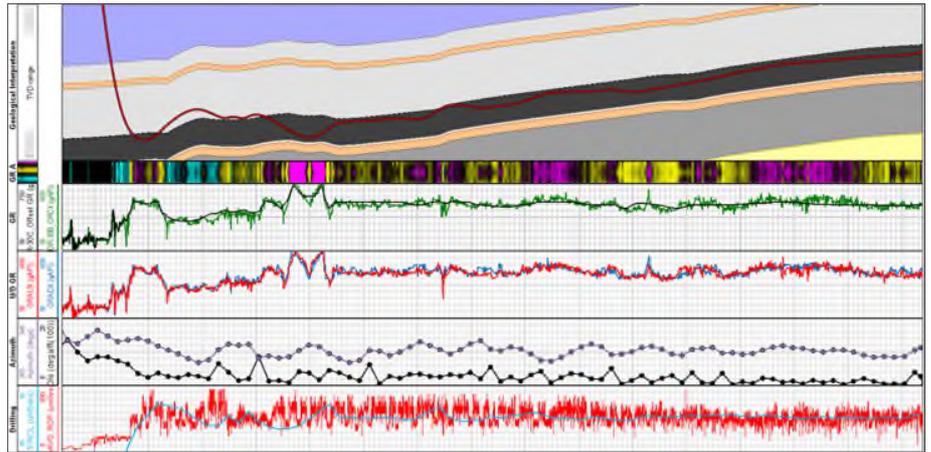
### BHGE solution

- 7-in. Navi-Drill Ultra XL45/RS-HP series drilling motor
- AutoTrak Curve rotary steerable system

combined, this led to a 13% decrease in time over the previous well drilled on the same pad.

Lessons learned from the continuous success with CNX have been used throughout the northeast with various customers, leading to consistent performance across the basin.

As of July 31, BHGE had drilled 82 Mile-A-Day wells in the Northeast.



Comprehensive real-time reservoir navigation plot of record well

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

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