



# Noble achieves exceptional torque and running speed with the new TenarisHydril Wedge XP™ connection

Noble Energy, Inc. tested the torque capability of the TenarisHydril Wedge XP™ connection during rotating while cementing in the Rockies

## Summary

### Connections for extended reach laterals and severe doglegs

Noble Energy was facing the challenging drilling conditions of the Niobrara shale in the Rockies region of Colorado. Anticipated difficulties included long laterals and potentially severe doglegs, requiring a connection with extra torque capacity and superior runability.

The customer successfully ran the TenarisHydril Wedge XP™ connection, showcasing its torque resistance as it was able to withstand a torque of 28,500 ft-lbs during rotation. This value is well within the connection's operating torque limit of 32,000 ft-lbs. During the 14-hour trial of this new product, Tenaris's field service specialists were present with the operator at the rig site.

## Challenges

### Torque strength required

Noble utilizes pad drilling, which often include long laterals and severe doglegs to satisfy spacing requirements and anti-collision issues. These expected challenges require the use of a connection with exceptional torque capability should the need arise to ream the casing to target depth.

In addition, Noble's standard operating procedure includes rotating while cementing. This is a Halliburton best practice and API Standard 65-2 recommendation that helps to maximize the displacement efficiency of the drilling fluid aiding in cement placement. The ability to rotate casing throughout the cement job enhances the cementing hydraulic seal and helps to maximize wellbore integrity, which increases the economic life of the asset. This operation necessitates a high torque connection to prevent the casing string from stalling out during the cementing process.

## PROJECT PROFILE

### Operator

Noble Energy, Inc.

### Cementing Service Company

Halliburton

### Location

DJ Basin  
Niobrara shale  
Colorado, United States

### Type of well

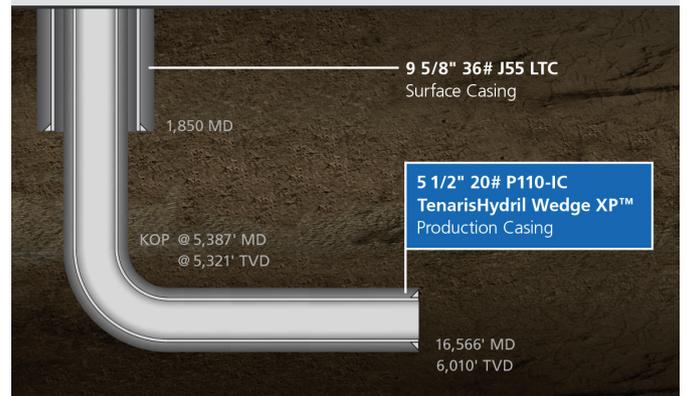
Shale

### Products highlighted

TenarisHydril Wedge XP™ connection

### Services provided

Technical consulting  
Field services



## Solutions

### A robust and reliable connection

TenarisHydril Wedge XP™ is a newly developed threaded and coupled connection, offering exceptional torque capacity and compression efficiency through the simultaneous engagement of opposing flanks generated by the dovetail thread. A pin-to-pin back up mechanism provides additional torque capability for rotation.

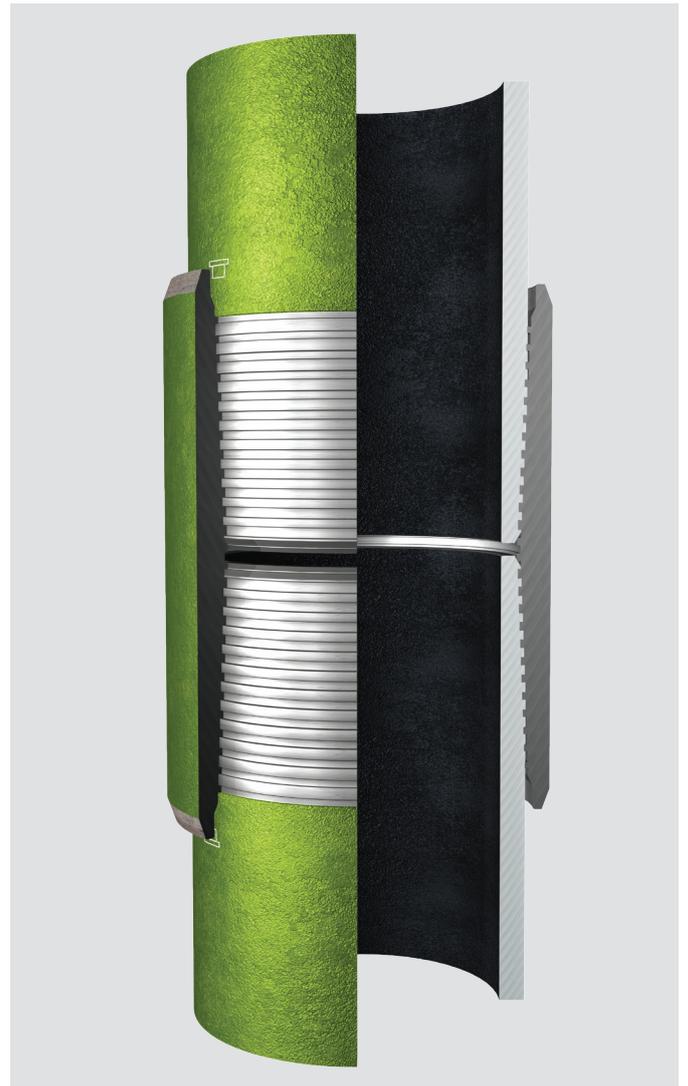
As with other TenarisHydril Wedge connections, Wedge XP™ reduces running time due to lower threads per inch of the profile and a rugged thread design promoting runnability. The make-up indicator allows for visual confirmation of acceptable make-up position, providing potential cost savings by eliminating the need for a torque-turn chart.

## Results

### High Torque, High Speed

A total of 388 joints of 5 1/2" 20# P110-IC TenarisHydril Wedge XP™ were run in hole as production casing, reaching a total depth of 16,566' MD / 6,010' TVD. Throughout the run, an average make-up speed of 15 seconds per connection was recorded.

Wedge XP™ demonstrated its torque capability as it withstood a maximum torque of 28,500 ft-lbs generated during rotating while cementing under a dogleg severity of 11°/100' @ 6,333' MD.



▲ The new TenarisHydril Wedge XP™ connection provides exceptional torque capabilities.



For contact information, please visit our site:  
[www.tenaris.com](http://www.tenaris.com)