



# TenarisHydril BlueDock® connectors set new performance benchmark in the North Sea

TenarisHydril BlueDock® connectors helped achieve a 34% reduction in running times in a challenging offshore operation.

## Summary

### A record-breaking campaign

A major oil and gas company became the operator of one of the most technically advanced offshore developments in the North Sea, where many industry “firsts” are being applied with the aim of enhancing safety and efficiency in the drilling and well operations.

Tenaris supplied the operator with TenarisHydril BlueDock® connectors for the main phase of the campaign with Rig Direct® services and, as a result, the operator achieved a record performance and time savings compared to the previous phase. A direct comparison of the performance achieved with the BlueDock® showed an improvement of 4.1 minutes per connector make-up after switching products. Tenaris therefore delivered important financial savings throughout the project, thanks to the reduction in rig time achieved solely by using BlueDock® connectors.

## Challenges

### Efficient and improved operations

Facing a complex oil project, the oil and gas company was looking for efficient technologies and services that would allow for safe and cost effective solutions. The operator required a reliable conductor for the multiple platform well slots used to reach over 100 reservoir targets using slot recovery.

The conductors, which extend from the wellhead deck of the platform, are set at around 100 meters below the seabed and act as a riser. They are required to offer superior fatigue resistance to face the harsh conditions of the North Sea. In addition, the operator required two separate coating solutions to protect the steel pipe in this demanding application.

## PROJECT PROFILE

### Location

UK North Sea,  
East Shetland Shelf

### Type of Well and Field

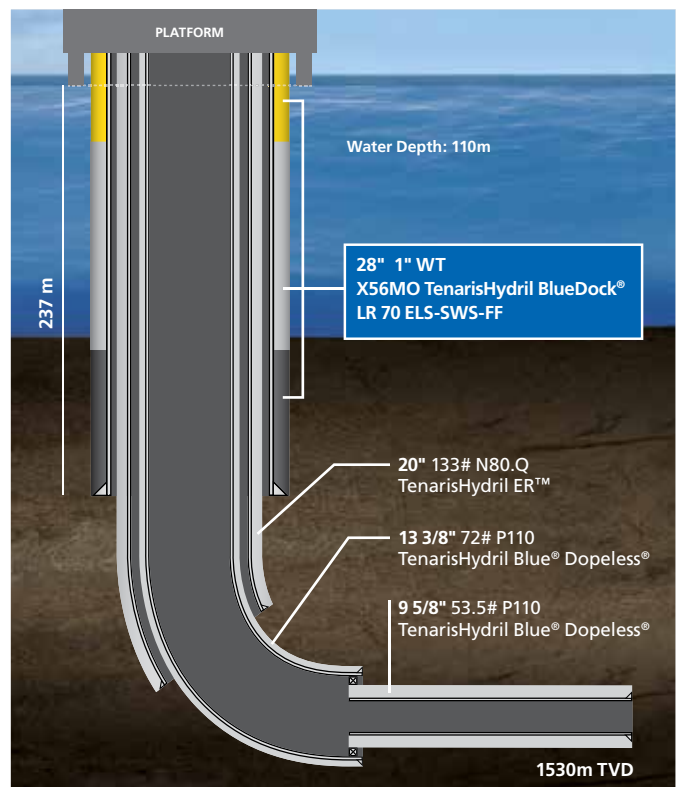
Heavy Oil Development

### Products Highlighted

BlueDock® Connectors

### Services Provided

- RigDirect®
  - Technical Consulting Services
  - Pipe Management Services
  - Field Services
- Rental Services
- Coating Services
- Local Welding Services
- Assembly make-up



## Solutions

Tenaris worked side-by-side its customer throughout the operation, supplying a full package of high quality products and services.

### Field proven technology

The TenarisHydril BlueDock® connector incorporates design concepts from the extensively tested TenarisHydril Blue® Series premium connections and provides reliable performance in the most complex ultra-deepwater operations. This product has undergone sealability tests based on API RP 5C5 standard, and has been successfully used by major oil and gas operators working in extremely demanding environments.

Its proprietary hooked thread profile design provides fully reliable structural capacity under extreme loads and extra fatigue resistance, which is critical for harsh offshore environments like the North Sea.

The operator chose BlueDock® connectors with three anti-rotational keys (ARKs). This safe and easy-to-operate device provides extra assurance against accidental back-offs, increasing significantly the break-out torque. The simplicity and efficiency of the BlueDock®'s ARKs was the major contributor to the outstanding running speed achieved in this operation.

### Rig Direct® services

Under the Rig Direct® service model, Tenaris accompanies its products with a wide range of high quality services. Tenaris served this project from its state-of-the-art service centre located five miles south of Aberdeen, in Portlethen, where the connectors were stored and prepared for offshore running.

Tenaris coordinated the demand planning of the material and delivered the products ready to be run offshore. This service included the fitting of the connectors' guide centralisers and the manufacture of crossovers, pup joints and water bushings, which were supplied on a rental basis.

Tenaris worked with local suppliers to deliver coating services, meeting the customer's stringent technical specifications and ensuring the operator received the highest quality of local service and support. The operator requested a combination of yellow Norsok 7A coating for the splash zone and grey Norsok 7B coating for the submerged section of the connector.

In addition, Tenaris worked with local suppliers to deliver welding services in Aberdeen, showing the company's ability to respond to complex and changing well design requirements.

Tenaris' certified field service specialists were present at the rig site to reduce operational risks and optimise running times by providing field technical support and running assistance. They worked side-by-side with the rig and running crews to ensure recommended practices were followed and products were properly installed.



▲ BlueDock® coated connector in the Aberdeen Rig Direct® Service Centre.

## Results

### Setting new records

During the pre-drilling campaign, the operator drilled several wells. In the following phase of the project, TenarisHydril BlueDock® connectors were run in eight wells, which allowed a direct comparison of the running performance. Using Tenaris products and services, the operator achieved record running times, averaging 5.5 hours per string, where each string contained 17 BlueDock® connector make-ups. The operator obtained an outstanding time of just 3.2 hours in one of the wells.

At the beginning of the project, the operator established that a "perfect well" would be defined as one with an average slip-to-slip time of 11.2 minutes for each connection. However, the operator achieved better results using BlueDock® connectors, reaching an average slip-to-slip time of 8 minutes per connection.

Therefore, the operator managed to obtain a 34% reduction in running times using the BlueDock® technology. This improvement signified a rig time saving of 1.2 hours per well.

Tenaris continues to support the operator in one of the most complex developments in the North Sea. The two companies will continue working together to achieve the next generation of well delivery services.



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