Tenaris

BlueDock™ connectors provide outstanding performance in ultra-deepwater well for Petrobras

The national oil and gas company successfully ran TenarisHydril BlueDock™ connectors in the Campos Basin.

Summary

Field-proven advantages

The 7-RO-155D-RJS well is located inside Petrobras's Roncador field, in the ultra-deepwater of the Campos Basin, a region known by severe weather conditions.

Petrobras, decided to run TenarisHydril BlueDock™ connectors, which provided an excellent performance, with zero re-make-ups and rejects, proving its reliability.

Throughout the operation, Tenaris field service specialists were present on-site to provide technical support and help the national oil and gas company to optimize operational performance.

Challenges

Severe offshore conditions

The operation took place in a drillship, in water depths greater than 1700 meters. In ultra-deepwater projects like this, pipes are subjected to strong currents, heave and swell, which increase the risk of back-off. As a result, they are exposed to bending and fatigue loads.

Large OD pipes are very heavy and hard to be handle, specially where severe offshore conditions are faced leading to misalignments, damages and other issues.

Longer exposure time of the string, in open sea, increases the risk of back off, dragging and open hole collapse.

Solution

High performance in harsh environments

Petrobras ran approximately 550 meters of BlueDock™ connectors in the 7-RO-155D-RJS well. These weld-on connectors are designed for large diameter surface and conductor casings. The high tapper thread design and the stabbing flank angle provide deep stabbing.

PROJECT PROFILE

Operator
Petrobras

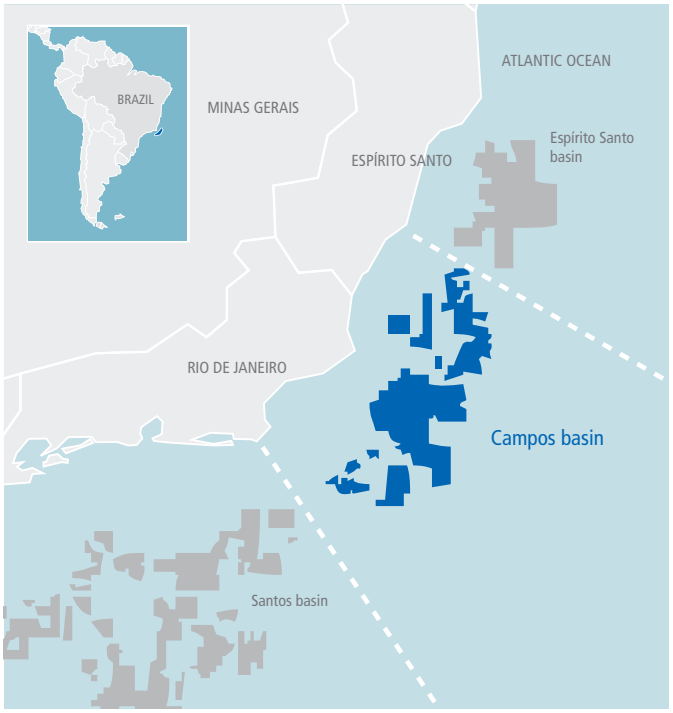
Type
Directional well

Location
Roncador field,
Campos Basin, Brazil

Products highlighted
TenarisHydril BlueDock™ connectors

Well
7-RO-155D-RJS
ultra-deepwater

Services provided
- Running Assistance
- Technical Assistance



▲ Brazil's Campos Basin region - ultra-deepwater - a region known by severe weather conditions.

The self-alignment guides and the long lead of the thread minimizes the risk of cross threading, improving the operational safety, reducing the make-up time and promoting trouble-free make-up. BlueDock™ connectors also ensure 100% ratings in tension, compression and bending.

In addition, they ensure high fatigue performance under bending and tension-compression cycling loads. The connector's double shoulder provides more than 100% compression efficiency, high over-torque capacity and enhanced fatigue response. The proprietary hook thread profile design provides fully reliable structural capacity under extreme loads and extra fatigue resistance.

Petrobras decided to run a 20" surface casing TenarisHydril BlueDock™ connectors with metal-to-metal seals. All these weld-on connectors come with anti-rotational keys preinstalled to prevent back-off, improving performance and running times.

Certified support

Tenaris's certified experts have a solid experience running large OD pipes, providing valuable technical assistance during the operation. This certified team of experts promotes operational safety and efficiency at the rig.

▲ BlueDock™ connectors provide easy, deep and safe stabbing.

Results

A reliable solution

TenarisHydril BlueDock™ connectors performed remarkably well. All joints were run without re-make-ups or rejections, in spite of the severe offshore environment and weather conditions, which included strong currents, heave and swell.

The make-up was performed with a power tong and monitored through Torque vs Time graphs, and a manual dimensional control was employed by measuring the remaining external gap with a feeler gauge. With this procedure, it was possible to ensure that every make-up was performed in conformity with product specifications.

During the operation, Petrobras requested to carry out some make-ups using only belt tongs. They were performed successfully, reaching the specified external gap.

The anti-rotational key activation was quite easy and no special tools were required, only a standard hammer. The device was installed by rig crew without any previous training and took less than 10 seconds to activated it.

Regarding the speed of the running, excluding non-operative time, the rate was 10 joints per hour.

Two pressure tests were performed to check the integrity of the casing string. The first test happened right after the BOP installation. The second one was performed after drill remained cement above the shoe. Both tests presented positive results.

Experts on board

Tenaris provides field service support by the largest and best trained team of specialists available in the industry. They contributed to the operational safety and efficiency at the rig.

After the operation, Petrobras highlighted that the connectors were easy to stab, quick to run and robust.

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For contact information, please visit our site:
www.tenaris.com