



Wedge 563™ Dopeless® connections chosen for deepwater project in the Mediterranean Sea

Tenaris's products and services combine to improve efficiency while minimizing the environmental impact of a seven well offshore completion campaign.

Summary

Streamlined completions in a sensitive environment

The Mediterranean Sea is one of the world's closely guarded areas due to ecological fragility and socioeconomic importance. As the offshore drilling and production of oil and gas increases and the World Conservation Congress has recognized the need to protect this area, E&P companies continue to implement environmentally safe practices and to use products to minimize the impact of drilling on marine and coastal ecosystems.

In this context, a US independent needed to complete seven wells in water depths ranging from 800 to 1,700 meters (2,600 to 5,600 feet). The customer aimed to use the same string to land the sub-surface test tree and maneuver the tubing into the wellbore throughout the entire seven well completion campaign. These pipes would also serve as a testing string facing 15,000 psi near the surface. For this operation, Tenaris recommended using the TenarisHydril Wedge 563™ Dopeless® connection, with rugged performance to withstand the project's multiple procedures in deepwater conditions.

Challenge

Minimizing the environmental footprint with a reliable solution

In order to maintain the integrity of the string throughout the completion campaign, the customer needed a solution with a robust thread to perform reliably during the multiple make-and-break operations.

The customer also required a clean solution to avoid contamination and excess of running compound (dope) in the system, minimizing the risk of formation damage. The dope used to connect threaded joints is an extraneous fluid with inorganic, hydrocarbon-resistant components that do not dissolve easily. Most running compounds have up to 60% of heavy metals such as lead, copper and zinc in their composition. In over-doped tubing strings, the excess lubricant can invade and plug a porous formation, reducing permeability and well productivity.

PROJECT PROFILE

Location

Mediterranean Sea

Type of well

Deepwater gas well with high flow rate

Services provided

- Job preparation
- Field Inspection
- Running Assistance

Products highlighted

TenarisHydril Wedge 563™
CB® Dopeless® with internal plastic coating



▲ TenarisHydril Wedge 563™ with the CB® option provides a flush internal diameter needed for the IPC while maintaining the connection's performance.

The excess chemicals and heavy metals in the rig site, present due to thread compounds used during the storage and assembly of connections, can have a negative impact in the environment.

Solutions

A robust connection design

Backed by more than 25 years of history, TenarisHydril Wedge 563™ connections provide high performance and reliability. With the dovetailed-wedge thread design and a larger thread surface contact area, the connection resists internal movement, which reduces the chances for galling and improves robustness. The connection features 100% internal pressure rated metal seal and maintains tightness and gas-sealing capability under high axial loads.

TenarisHydril Wedge Series 500™ connections are rugged and easy to use in the field. They can even be repaired on-site in case of need, a feature greatly appreciated in workstring and landing string applications.

The operator needed a CB® (Corrosion Barrier) option to use an Internal Plastic Coating (IPC) in order to protect the pipe's ID from corrosion by completion brines. A typical connection with corrosion barrier loses compression and torque capacity as the shoulder area is reduced. In contrast, the TenarisHydril Wedge 563™ connection with the CB® option provides a flush internal diameter while maintaining its ratings due to a design that does not rely on the box shoulder for structural support.

Reliable technology for a clean completion

Dopeless® technology is a dry, multifunctional coating applied to premium connections in the mill, making thread compounds obsolete. The exact amount of lubricant is applied to the thread and intimately adhered. This improves consistency during the operations with a more uniform and reliable behavior, even after several make-and-breaks.

The Dopeless® technology corrosion protection allows the customer to rely on this solution while the casing is racked in the derrick between different completion operations.

Connections with the dry coating perform consistently without the need to apply thread compounds that could have a negative impact on the environment or could invade and plug the formation.

A partner from the very beginning

Tenaris's technical sales team offered support from the beginning of the project, during the early planning stages of these completions. With a deep understanding of the customer's needs, they were able to deploy the field services team to support operations at each well, and manage the supply of tubular accessories and other consumables for the optimum handling of the products. Through close follow up, the team was able to present the customer with a complete report on product performance after each running and pulling sequence.

A certified field service specialist also assisted the operator on-site to directly inspect the products and sub-assemblies, as well as to monitor the operations under a back-to-back scheme according to the established procedures and guidelines recommended by Tenaris. They inspected the customer's inventory in country to make sure that the products arrived at the rig in optimum conditions.

Results

Successful completion campaign

Following Tenaris's advice to use a robust and reliable product, the customer was able to complete all seven wells in an eight-month period with the same 7" landing string. During this time, 150 joints (in stands of two and three pipes) were run and pulled out of the hole up to seven times without incident.

The project confirmed the robustness of the TenarisHydril Wedge 563™ connection utilized in a landing string numerous times in combination with a close technical field support. Dopeless® technology showed excellent corrosion resistance properties during the racking back period and the connections did not register signs of galling even after repeated make-and-breaks. The customer experienced zero re-make ups due to connection anomalies throughout the entire eight-month completion time.

The CB® option of the Wedge 563™ demonstrated great performance providing a flush, flawless ID to the landing string and withstanding the wells' high flow rates.

Tenaris exhibited a deep understanding of operation sequences and closely followed each well's development, which proved the team's readiness to face unexpected events. After the success of this program, the customer has decided to continue its partnership with Tenaris using the TenarisHydril Wedge Series 500™ connections and Dopeless® technology in future projects.



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