



ORLEN Upstream and Tenaris find solutions for shale well in Poland

The Polish oil and gas company ORLEN Upstream drilled a challenging horizontal well with TenarisHydril Wedge 563™ premium connections and Tenaris technical and field services.

Summary

A promising land

Oil and gas companies have been actively exploring the contact zone between the East European Craton and the west of the European Platform since the 1970s. The vast majority of the operations led in this area have so far involved conventional wells. Today the target has changed. Hydrocarbon exploration is focused on finding unconventional reservoirs that can be economically viable.

The operating company ORLEN Upstream, a subsidiary of PKN ORLEN, the largest crude oil refining company in Poland, is exploring complex Lublin Basin assets that extend under Poland and Ukraine. The operator had drilled several vertical wells and two horizontal ones before taking the challenge on drilling Stoczek-OU1K horizontal well. The aim of this new project was to explore the gas accumulation and producing capability in the Lower Silurian and Ordovician shale deposits.

ORLEN Upstream chose TenarisHydril Wedge 563™ connections along with Tenaris technical and field services for this operation. As a result, the operator managed to overcome the many challenges posed by this well and reached the target depth.

Challenges

Paving the new roads in Poland

Poland is recognized for its potential in terms of shale gas. Therefore, the country has been working to improve the availability of instruments and equipment, as well as human expertise, to develop the necessary infrastructure. Drilling wells costs three times more in Poland than in the United States, making connection performance essential.

The Stoczek-OU1K well is one of a few shale horizontal wells drilled in Poland so far. As in every exploratory well, many conditions were unknown. This situation called for special product requirements. Superior compression efficiency, torque capability and fatigue resistance were a must for the production casing string that, in order to be installed in the horizontal section, had to be pushed and rotated several times to overcome frictional forces and thus reach the target depth.

PROJECT PROFILE

Operator

ORLEN Upstream

Services provided

- Field Inspection
- Running Assistance

Location

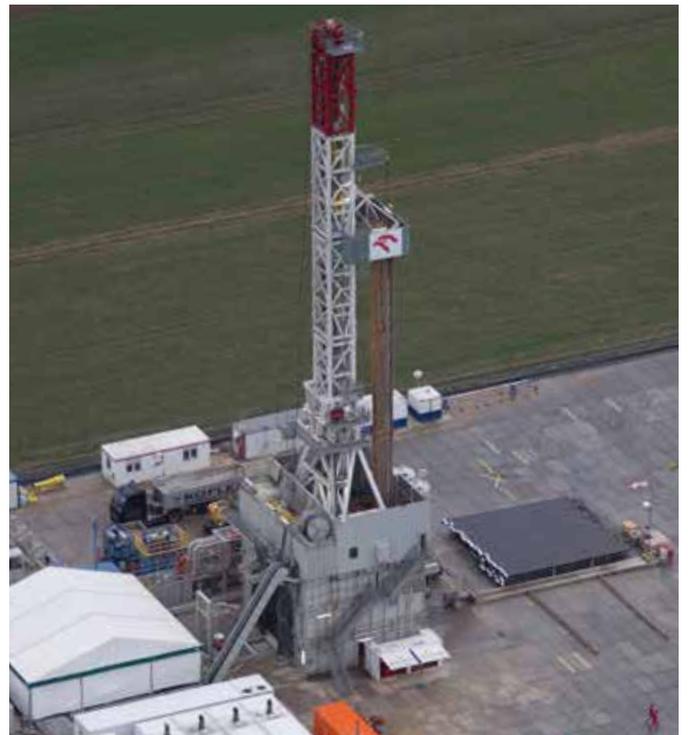
Lublin Basin

Products highlighted

TenarisHydril Wedge 563™ connections

Well

Stoczek-OU1K



Solutions

High torque resistance and compression efficiency

For the challenging Stoczek-OU1K well, ORLEN Upstream chose 5 ½" 26.80ppf Q125 with TenarisHydril Wedge 563™ for the production casing string. This technology is best-suited for applications that require extreme torque resistance. This connection offers field-proven performance and is easy to handle and run. In addition, the Wedge 563™ ensures 100% ratings in tension and compression.

For this operation, the TenarisHydril Wedge 563™ premium connection came with the Recess Free Bore (RFB) option to facilitate the undisturbed flow in the well during the fracturing process. To reduce the frictional forces, which occur while running the string into the lateral part of the well, the coupling with special bevel was utilized.

Full support

ORLEN Upstream together with Tenaris technical sales and field services teams worked side-by-side to ensure the success of the operation.

Tenaris supports Poland from its established presence in Romania and Italy. In Romania, Tenaris has its commercial office in Bucharest, its seamless tubes mill in Zalau and the service center in Ploiesti. In Italy, presence consists of seamless mills in Dalmine, Costa Volpino, Piobino and Arcore, as well as R&D facilities and two services centers.

Results

A connection to rely on

ORLEN Upstream's drilling of the Stoczek-OU1K well was a great success. The TenarisHydril Wedge 563™ connection facilitated a smooth operation. It presented zero re-makeups and rejects due to product-related matters.

Final survey data of the well was taken at the depth of 4307m MD and 2953m TVD with final inclination 91,5°, with max. recorded DLS of 8,56°/100ft. During the five days long running operation, mud-logging unit recorded a torque peak of almost 25,000 ft-lb, a maximum rotational speed of 90 RPM and a maximum weight on string of 29,000 lbf. ORLEN Upstream pressure-tested Stoczek-OU1K well later on with satisfactory results.

Services that add value

The expertise of Tenaris technical sales team supported ORLEN Upstream in finding the best solution to overcome the challenges posed by the Stoczek-OU1K well. The field service specialist was present on the site to share knowledge and experience, providing useful advice whenever the customer required.

ORLEN Upstream was satisfied with the connection performance. The operator also acknowledged that TenarisHydril Wedge 563™ connections were instrumental to reach the target depth.

Tenaris experts will use the data gathered in the field to develop a Torque, Drag & Fatigue analysis. The results will improve the understanding of the field conditions during the drilling and running phases, an information that will be useful when drilling other wells in the future.



For contact information, please visit our site:

www.tenaris.com