



## Major operator chooses TenarisHydril connections and Rig Direct™ for thermal project

Tenaris supplied TenarisHydril Blue® and TenarisXP® Buttress connections along with a wide array of services for an important thermal project located in Alberta, Canada.

### Summary

#### A history of joint work

Tenaris and a leading oil and gas company signed a long-term agreement in 2012. Following positive results, the agreement was renegotiated in 2016 to include Tenaris field services, product delivery and accessories supply.

In this framework, Tenaris supplied TenarisHydril Blue® and TenarisXP® Buttress connections along with Rig Direct™ services for a thermal project, located two hours south of Fort McMurray, Alberta, Canada.

The operator successfully drilled a recent pad, a 10 well-pair steam-assisted gravity drainage (SAGD) pad where each pad consists of one row for injector and one row for producer wells.

SAGD is an application that injects steam through a horizontal injector well to lower the viscosity of the oil to help it flow. The oil is then captured by a parallel producer well that takes it to the surface. This application demands precise directional drilling, requiring tubular products with high torque resistance.

### Challenges

#### Reliability and efficiency amidst the cold

Even though they are drilled in relatively shallow depths, often a true vertical depth (TVD) of less than 500 meters, SAGD wells can be technically demanding, requiring the exact placement of the injection and producer horizontal wells within five meters from each other.

In this particular project, the horizontal sections of the producer wells had to be drilled in a tight target window of about 0.5 meters TVD and about 1.0 meters right and left from the directional plan. The horizontal sections of the injector wells also had to fit within a target window of 4.75 meters TVD to 5.25 meters TVD above the producer wells, and about 2.0 meters right and left of the producer wells.

### PROJECT PROFILE

#### Location

Alberta, Canada

#### Application

Thermal (SAGD)

#### Products highlighted

- TenarisHydril Blue® connections
- TenarisXP® Buttress connections
- TenarisHydril Wedge 511® connections

#### Services provided

- Technical consulting services
- Pipe management services
- Field services



▲ Tenaris's Fort McMurray service center was used to conveniently deliver products by rail to reduce trucking traffic to the project's location.

The operator wanted to improve the efficiency of the operation in terms of time and costs, ensuring the availability of products, minimizing the working capital and reducing the risk of obsolescence of the material in the yard.

Promoting efficiency is particularly challenging in winter operations, when the harsh weather conditions make activities slower and increase the potential for accidents. The oil and gas company has vast experience working in the low temperatures of Canada, but was still looking to optimize operations to ensure better results.

## Solution

### Products with outstanding properties

The operator chose 9 5/8" TenarisHydril Blue® connections for the intermediate sections—which would face the most challenging conditions—and 7" TenarisXP® Buttress connections for the slotted liner section of the injector wells.

The TenarisXP® Buttress connection offers extra torque, fatigue and compression resistance as well as greater make-up stability than standard buttress connections. By being API-compatible, operators can use standard API accessories and draw on a wide range of threading and repair shops.

With 100 percent fully tested pipe body rating and metal-to-metal seal, the Blue® connection has the versatility to perform in all environments and the rotational ability required for this type of operation. It has been qualified under ISO 13679 CAL IV standard and also successfully tested under the Thermal Well Casing Connection Evaluation Protocol (TWCCEP), the most severe testing available for the thermal industry. Blue® connections present the highest coverage than any connection under the TWCCEP standard.

Tenaris independently conducted over-torque testing on 9 5/8" TenarisHydril Blue® connections, followed by thermal cycling, to analyze its additional capacity to rotate while cementing. The results showed that the performance of the Blue® connection is reliable even at higher torque levels than those applied under TWCCEP standards.

The oil and gas company required Tenaris's proprietary thermal steel grades to improve consistency in the liner slotting, prevent ovality problems and improve the straightness in the length of the pipe. Tightened wall thickness tolerances help maintain the uniformity of the intermediate string when exposed to high thermal loading.

## Local support

Tenaris supplied the operator with Rig Direct™—a wide array of expert services that support customers in every stage of their operations from string design to running products.

Tenaris worked from its local service center in Fort McMurray. Thanks to this strategic location, Tenaris could deliver these services quickly.

## Results

### Products and services that meet the needs

TenarisHydril Blue® and TenarisXP® Buttress connections performed as expected with virtually non-existent rejection rates, helping the operator achieve a smooth operation in spite of the harsh weather conditions.

Through demand planning and inventory management Tenaris ensured the availability of the products in the right quantity, providing on-time delivery of pipes and ready-to-run tubing, to minimize inventory costs, obsolescence and stock out risk.

Through Tenaris's Rig Direct™ model, the oil and gas company reduced its transportation costs and has limited the number of trucks on the road. Rail delivery was used to transport products to Tenaris's Fort McMurray service center, reducing trucking times by half, from twelve hours to six hours round trip. By reducing vehicle traffic on high-hazard roads in Alberta, the operator also enhanced its safety performance by minimizing overall risk.

To promote operational safety and efficiency, certified field service specialists provided running assistance ensuring practices were correctly followed and products were properly installed and used. Tenaris also offered technical training to contribute to the better use and application of its products.

Furthermore, Tenaris provided the right package of accessories, which included Debris Seal Packers (DSP), liner hangers and landing joints, along with its threading capability.

After witnessing the results of the operation, the oil and gas company expressed its overall satisfaction with the integral package of products and services supplied by Tenaris for the thermal project and is moving forward implementing Rig Direct™ services for their remaining operations in Western Canada.



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