



Rotating while Cementing solves Mud Removal Problem in SAGD wells

Wedge 563™ solves torque requirements in highly deviated applications

Summary

A leading oil and natural gas company in Canada discovered the value of Wedge 563™ as intermediate casing in thermal wells in the Oilsands region of Northeastern Alberta. By using Wedge 563™, the customer reduced drilling time and costs while keeping the integrity of the wells intact.

Challenges

Mud removal while cementing proves biggest obstacle

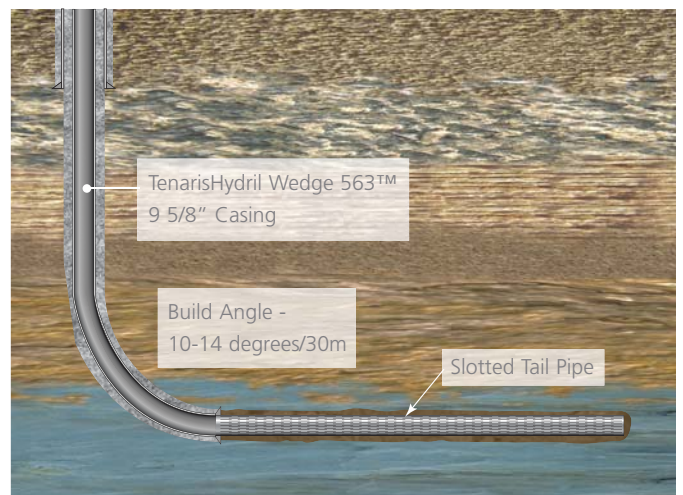
Proper cementing is critical in SAGD (Steam Assisted Gravity Drainage) wells so that proper zonal isolation and well integrity remains intact. One particular well was highly deviated, starting from vertical and building to 90 degrees inclination with high-doglegs of 10 to 14 degrees per 30 meters, making proper mud removal on cementing a challenge. Due to the subsurface conditions large channeling areas could develop. Channeling areas must be filled with cement to ensure a proper cement bond job as well as mechanical support for the column.

Various geological formations threaten well

All of the wells drilled in this particular pad were thermal SAGD wells, which are subjected to steam injection at high temperature and pressure. In order to inject steam into these wells, strong sealability must be established so that uphole formations are not exposed. The connections in this well were under extreme tensile and compressive loads due to the cyclical heating and cooling of the casing. If a leak occurred and uphole shales became hydrated, a formation shift could occur that would shear casing strings and endanger the entire pad.

PROJECT PROFILE

Location Northeastern Alberta, Canada	Services provided Running services
Field type High temperature steam Injection SAGD, CSS	Torque-while-Rotating 25,000 ft-lbs
Products provided 9 5/8 40# L80 TSH563	Dog Leg Severity 10 - 14 Degrees per 30 meters
Running speed 10 joints/hour	



▲ Wedge 563™ offers superior torque strength and a 100% metal rated seal.

Solutions for the Customer

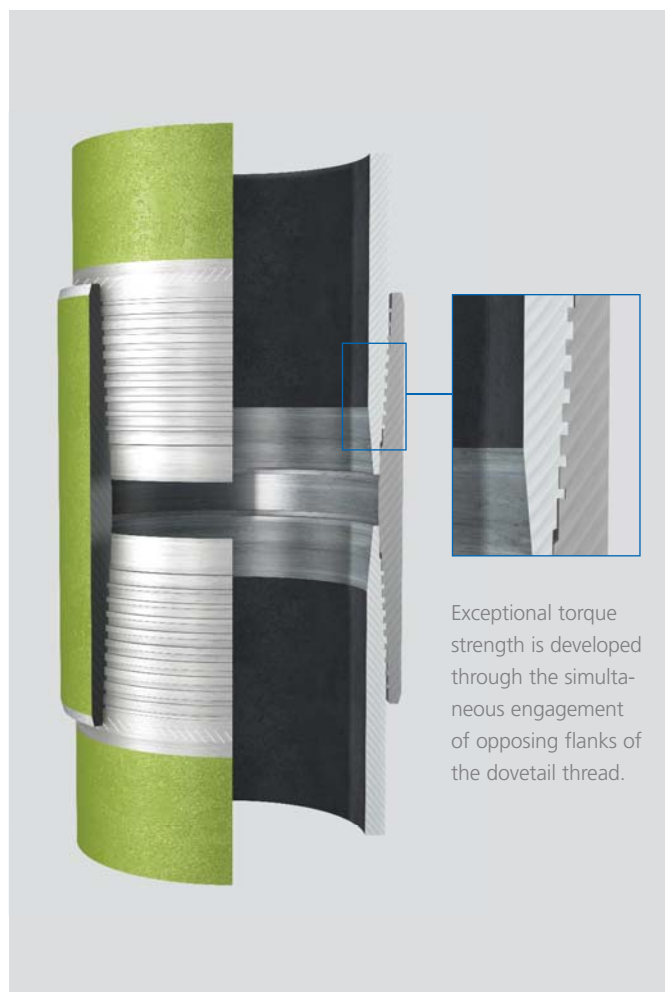
Due to the design of the well pads, long reaching build sections with high dogleg severity are required to reach the intended targets. This, combined with the shallow depth and unconsolidated formations resulted in the necessity for a high torque connection that can withstand 25,000 ft-lbs for casing rotation during the cement job.

Realizing the need for a connection that can endure both extreme temperature and pressure, the customer looked to Tenaris for the best casing to run successfully in their wells. After testing various options, Wedge 563™ was the connection of choice because of its exceptional torque strength, 100% rated metal seal for internal pressure, high tension and bending strengths. Wedge 563™ has the highest torque rating of any connection (yields at 75,000 ft./lbs. on 9-5/8" casing) and it has been tested at temperatures exceeding 360 degrees Celsius (the pressure of steam being injected will exceed frac pressure). Due to its high torque capacity, casing rotation can be accomplished in the well.

Results

TenarisHydril connection saves time and money

To date, the customer has run an average of 900 meters of pipe per well and they have drilled more than 400 wells using Tenaris products in thermal areas. Wedge 563™ has proven to be a consistently reliable performer in thermal applications. Because of this high success rate of completing the casing runs the first time, the customer has saved additional rig time by avoiding tripping of the casing and hole cleaning operations.



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