

## Case Study

# Packers Plus reduces completion costs by 30% in HPHT reservoir

CANADA, DUVERNAY  
TITANIUM XV SYSTEM

## Background

The Duvernay formation of northwestern and central Alberta extends over 100,000 km<sup>2</sup> and is comprised of shale intervals interbedded with dense limestone. Much of the proven source rock of the formation requires downhole completion equipment with pressure capabilities that exceed standard system pressure ratings of 69 MPa (10,000 psi). To effectively stimulate the wells, high pressure and high temperature (HPHT) equipment is required to withstand large fluid volumes pumped at high rates.

## Challenge

In the early development of the Duvernay, total well costs between \$15 and 20 million were commonly reported by operators. Although drilling and completion costs have trended downwards, an operator using cemented liner plug-and-perf was interested in an alternate system to substantially reduce costs. The operator worked with Packers Plus to identify a field-proven and economical completion solution.

## Solution

The operator chose to run a Packers Plus StackFRAC® Titanium® XV system with a monobore design using a Titanium XV SF Cementor™ stage collar. This stage collar eliminates the need for intermediate casing and reduces well construction costs. Designed as a fit-for-purpose solution for completing HPHT monobore wells, the Titanium XV SF Cementor is used to cement-back the vertical and build sections from the heel of the well.

This cementing stage collar is hydraulically activated and designed to close without the use of a plug, reducing post-cement clean-out operations, debris and associated costs. The Titanium XV SF Cementor is run as part of the production liner above a StackFRAC Titanium XV completion system.



## Results

The 20-stage system was run into a wellbore to a measured depth of 5,700 m (18,701 ft) with a lateral length of 2,014 m (6,608 ft). Approximately 26,900 m<sup>3</sup> of fluid and 2,805 tonnes of proppant was pumped while completing the well. The successful stimulation was achieved with a maximum pumping rate of 14 m<sup>3</sup>/min and a maximum pressure reached of 90 MPa. The entire operation was completed in less than 60 hours pumping time.

After the operator released its quarterly financial results following completion of the open hole well, the company's chief executive commented: "We've also piloted the ball drop completion technique on the second Ferrier well, which reduced our completion costs by approximately 30 per cent; we're now looking into expanding this method to more of our operations in the Duvernay."

Packers Plus StackFRAC Titanium XV systems ensure efficient completions to attain more cost-effective wells than comparable cemented liner completion methods in the Duvernay.