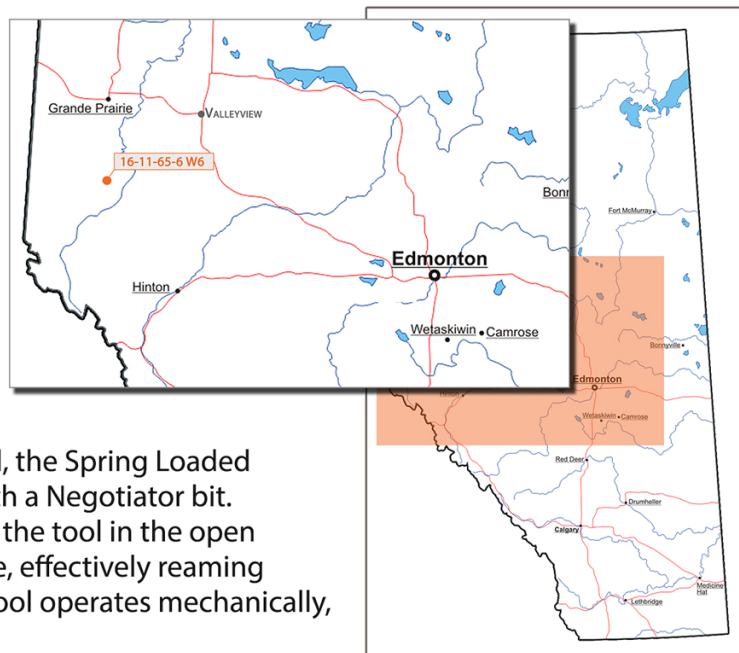


Harvest Operating Corp.

16-11-65-6 W6
 Grande Prairie, AB
 Precision Drilling 622

Longhorn received a call from Harvest reporting potential issues expected while running in their Multi-Stage Packer assembly in their production string. Issues were expected with the Falher formation due to shifting coal seams and bridging. Designed with multi-stage packer systems in mind, the Spring Loaded Auto-Set External tool was selected for the run, outfitted with a Negotiator bit. The Auto-Set design uses a high-tensile steel spring to keep the tool in the open position, ready to work as soon as it starts to meet resistance, effectively reaming and deflecting as needed the whole way in. By design, the tool operates mechanically, reducing or eliminating the need for circulating.



Longhorn field personnel arrived on lease at 11pm, and the tool was rigged up and running in hole by 11:30pm. The string was run in over the next few hours, reaching open hole around 9:45am. Twice during the run, the string started to take weight at 2885 m (9465 ft) and 3360 m (11023 ft), both times inside the Falher coal formation, an indication that there were some minor obstructions and increased drag. The string continued running in until 5pm, when the first major tight spot was reported at 4100 m (13451 ft). Over the next 20 minutes, the string was reciprocated and the tool was worked through a bridge from 4102 m to 4147 m (13458 ft to 13605 ft). Once through the obstruction, the string was run in to TD at 4164 m (13661 ft).

The total run time was 18 hours from rig in to TD, and the tool was integral to the success of the run. The client representative on lease was very pleased with the effectiveness of the tool.



Auto-Set External Casing Landing Tool with Negotiator Bit

Run Summary

Client:	Harvest Operating Corp.
Company Man:	Kevin McIvor
Tool:	4.5" Auto-Set External
Bit:	4.5" Negotiator
Target:	4.5" Production String with Weatherford ARES Hydraulic Multi-Stage Packer Assembly
Hole Size:	159 mm / 6 1/4"
TMD:	4164 m / 13,661 ft
Expected Issues	Bridges Coal Seams
Total Run Time:	18 Hours
Noteworthy	The Auto-Set External worked through a few tight spots and a 45 m (147 ft) bridge.