

# High Rate Annular Coiled Tubing Fracturing

Montney Formation, Western Canadian Sedimentary Basin

## CHALLENGE

- Successfully place pinpoint fractures in the Lower Montney
- Exceed pumping pressures of 10,000 psi due to high fracture gradient
- Maximize proppant conductivity into the reservoir
- Successfully execute a single-entry slickwater fracturing operation
- Ensure complete wellbore drift post completion

SOLUTION	RESULTS
<p>Calfrac has specifically designed surface equipment and operating procedures to complete a +6,000m annular fracturing operation beyond the previously defined 10,000 psi pressure limitation.</p> <ul style="list-style-type: none"> <li>• Abrasively perforated each zone into the blank casing</li> <li>• Single pinpoint entry into the reservoir</li> <li>• Confidence in location of sand and fluid placement</li> <li>• Specifically designed coiled tubing strings for high rate and high pressure</li> <li>• Treatment capabilities up to 85 MPa</li> <li>• Calfrac CWS-600 Slickwater fluid system to effectively place conductive path</li> </ul>	<p>Calfrac completed the first true 15,000 psi annular Slickwater coiled tubing fracturing operation:</p> <ul style="list-style-type: none"> <li>• Completed 25 stages throughout the lateral section</li> <li>• Treated at an average pressure of 75 MPa and 4.5m<sup>3</sup>/min</li> <li>• Successfully placed up to 350 kg/m<sup>3</sup> of sand concentration and 60T per zone</li> <li>• Hydrocarbon was propitiously produced back to surface after six (6) days of flowing</li> <li>• Elevated water recovery and producing surface pressure as compared to alternate completion methods</li> </ul>

## ILLUSTRATION OF RESULTS

