On a managed pressure drilling (MPD) well in the Kakwa field, Seven Generations Energy Ltd. planned to core 222 meters (728 feet) in the Montney shale formation. The Montney formation is located below the Belly River, Falher, and Wilrich formations at a depth of approximately 3,000 meters (9,842 feet).

Maintaining wellbore stability and integrity in the upper hole sections would be essential to obtaining the core and preventing nonproductive time (NPT).

To stabilize the upper hole sections, the Baroid team proposed applying WellSET® wellbore strengthening treatments to increase the hoop stress in the near-wellbore region. The WellSET treatment, applied while drilling the three potentially troublesome formations, would improve wellbore pressure containment ability by preventing further pressure and fluid transmission to the fracture tip, while at the same time widening and propping any fractures. The wellbore strengthening treatments contained lost circulation material (LCM) with particle size distributions engineered to seal and stabilize each formation type. The LCM blend used in the treatment included STEELSEAL® resilient graphitic carbon, various grades of calcium carbonate bridging agent, and BARABLOK™ 400™ gilsonite filtration control agent.

The WellSET LCM application increased the wellbore integrity, enabling operator to cut and recover 222 meters (728 feet) of core. There was no need for a wiper trip (which normally took 18 hours), thus saving approximately USD 60,000 in rig time.

Per the operator’s statement, the WellSET treatment led to a successful coring job that set a new record for North America onshore in terms of core length cut and recovered.