Case study: British Columbia, Canada

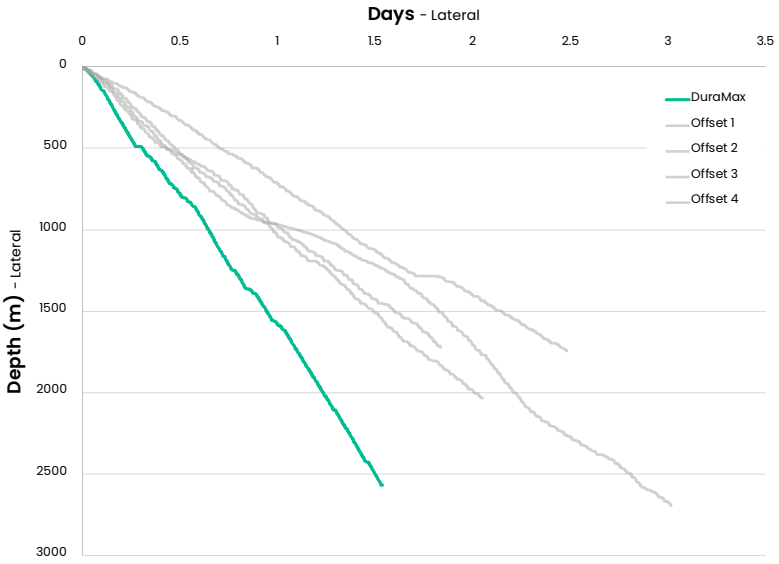
DuraMax motor drilled to TD 2 days ahead of plan, set new Mile-A-Day record

A long-term partner of Baker Hughes in the Montney of northern British Columbia, Canada, needed to complete half the build and reach total depth (TD) in a single run. The overall goal for the well was to drill from spud to release, in under 10 days, with two to three days allocated to drill the lateral. The largest challenge was a strong formation push in the lateral, that required overcoming a 1-2° / 30m (100ft) build in rotary.

Baker Hughes suggested the **DuraMax™ high-performance downhole motor**. The ruggedized new motor features a shorter bit-to-bend ratio, a higher operating envelope, and mid-point-stabilization. The DuraMax motor can rotate at over 110 RPM at the surface while maintaining a 14°/30 m (100 ft) build-up-rate capability. The operator is able to finish half the build and drill to TD in a single run, without sacrificing performance.

The $5\,^{1}/_{8}$-in. DuraMax D75-5095P motor drilled the $6\,^{3}/_{4}$-in. curve and lateral section in the Town field of the Montney formation. Drilling 2550 m (8,366 ft) in 55 hours, the DuraMax motor achieved a consistent rotating ROP of around 110 m/hr (360 ft/hr). With the customer's goal to complete this section inunder three days, the DuraMax motor completed the operation in half the time, a rig time saving of over one and a half days.

This was in large part to only sliding 3% of the lateral section, overcoming the strong formation, requiring minimal directional intervention. Showcasig the DuraMax motor's performance resulted in a new record: 1760 m (5,774 ft) drilled over a 24-hour period, marking the first Mile-A-Day well by Baker Hughes in Canada.



DuraMax motor drilled the 2550-m (8,366-ft) lateral in 1.5 days, including a new mile-a-day record of 1760 m (5,774 ft).

Challenges

- Reach TD, from spud to release, in under 10 days
- Overcome downhole conditions including:
  - Single run finish build and lateral
  - Strong formation push

Results

- Drilled 2550 m (8,366 ft) in 55 hours
- Achieved new Mile-A-Day record: 1760 m (5,774 ft) drilled over a 24-hour period
- Completed drilling 2 days ahead of schedule
- Experienced no health, safety and environmental (HSE) issues or nonproductive time (NPT)