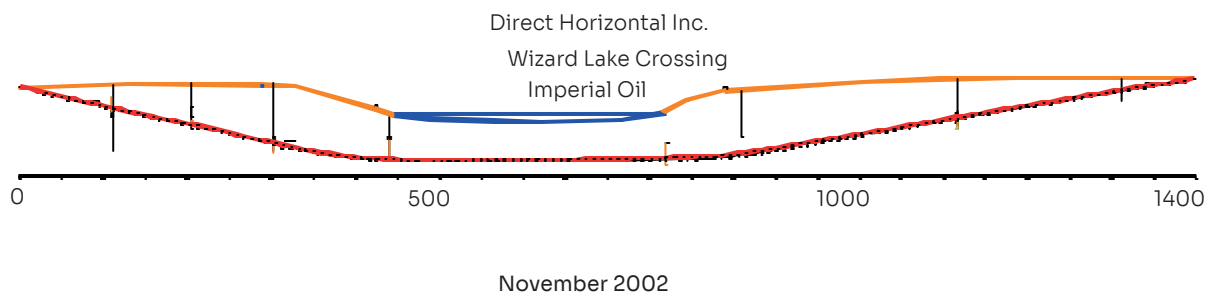


Wizard Lake



Imperial Oil of Calgary, Alberta, Canada contracted Direct Horizontal Drilling, also of Alberta, to install a product line across one of the most environmentally sensitive public recreational waterways in Alberta, outside Edmonton. The weak bentonitic shale formations, interbedded with weak limestones and coal measures made formation overpressure and potential mud fracture to surface or into the lake an serious risk. In order to limit the overall drilling time and therefore additional risk of fractures and remove the possibility of pull backs and redrills due to potential inaccurate guidance using conventional guidance equipment, Imperial chose to use ParaTrack with a surface guidewire installed from entry to exit, across the lake.

In addition, having made the commitment to drill Wizard Lake without impacting the environment, Imperial measured the formation fracture pressures prior to mobilization, using open hole packers. With this data, a pressure plan was created and annulus pressures were required to be measured throughout the pilot hole in order not to exceed the formation fracture pressures previously determined. ParaTrack 2, enhanced with pressure gauges for pilot hole annulus and drill pipe pressure above the steering tool was used with a guide wire placed on top of the planned centerline throughout the 1400 meter crossing. Annulus pressures were constantly monitored and when hole conditions required, wiper trips or changes to the mud properties were implemented to immediately reduce the pressure. The pilot hole was completed without mud losses to the lake or to the surface despite many pressure events requiring immediate remedial action.

The entire crossing was tracked throughout and an on target punch out was achieved with no pull backs, according to plan.

ParaTrack 2 guidance, enhanced with pressure monitoring, is leading the way forward in providing operators with the confidence to drill technically difficult horizontal crossings.

Call Prime Horizontal to find out how ParaTrack can assist you.