RESERVOIR SYMPOSIUM

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Reservoir Characterization for Energy Security

Optimizing Cold Lake Recovery through Adaptive Redrill and Infill Strategy

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ABSTRACT

Imperial Oil has implemented an infrastructure-led, production enhancement drilling program at its Cold Lake asset. The primary objective is to leverage existing infrastructure to deliver capital-efficient volumes through sidetrack, redrill, and infill drilling. This presentation outlines the program's evolution, its strategic emphasis on agility and flexibility, and the integration of multiple opportunity types.

The program employs a modified super single rig to execute a diverse range of well types, including sidetracks, redrills, infills and multilateral "warm flow" wells. The execution strategy is designed to be highly adaptable, enabling efficient response to changing steam schedules and reservoir conditions. "Warm flow" multilaterals are a recent (and promising) opportunity that targets bypassed pay zones, conductively heated through decades of overlying CSS operations.

This presentation offers insights into the design and execution of agile brownfield drilling programs in thermally mature reservoirs. It highlights the value of infrastructure-led development, operational flexibility, and technical innovation providing practical guidance for similar initiatives across the petroleum industry.