

4D Seismic Analysis and Reservoir Management at Christina Lake

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Abstract

Integration between the geosciences and reservoir engineering is a key component in oil sands resource recovery. This paper will show how integration between time-lapse seismic analysis and reservoir optimization techniques in Cenovus Energy's Christina Lake property have helped in developing the resource in an efficient and sustainable manner. We will explore how the use of 4D seismic data, reservoir saturation logs, and temperature logs have helped in identifying barriers to steam and steam growth patterns. Furthermore, we will discuss how we have integrated our 4D seismic results with different completion designs and operating strategies. Our findings provide essential information that is used for production forecasting, simulation, and reserves auditing.