

Structural Mapping and Modelling of the Sub-Cretaceous Unconformity and Delineation of Subcropping Formations, West-Central Alberta

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Abstract

A review of geophysical wireline log and core data in west-central Alberta was undertaken to identify the stratigraphic and structural position of the sub-Cretaceous unconformity, develop an improved model of the unconformity surface, and to map the subcrop extents of lithostratigraphic formations in the study area.

The sub-Cretaceous unconformity is an important regional surface found across the Alberta Basin representing a major erosional event, which exposed Upper Devonian Wabamun to Upper Jurassic/Lower Cretaceous Nikanassin formation strata in the study area. Structural modelling and zero-edge delineation of subcropping formations intersecting this surface are an integral part of a larger project at the Alberta Geological Survey (AGS) to create a provincial scale 3D geological framework model of the Alberta subsurface.