

The Lower-Middle Devonian of Mackenzie River Corridor: sequence-stratigraphic updates from core studies

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Abstract

The Lower and Middle Devonian of the central and northern parts of the Mackenzie River Corridor contains one giant conventional oil play (Norman Wells) and numerous oil and gas shows in breccias, dolostones and limestones. In this succession, the Muskwa-Canol Member hosts the region's major Paleozoic prospect for shale gas. The package also contains significant shale-gas prospects in the Bluefish and Headless shales (Hannigan et al., 2009). Long-standing uncertainties in formation relationships and sequence boundaries urge improvements in regional sequence-stratigraphic framework as a critical step towards more successful exploration for both conventional and nonconventional hydrocarbon resources. One key step is the revisiting of wells with representative core coverage such as Kugaluk N-02 of Inuvik Area (Fig. 1).