

The Early Infill of the Triassic Fundy Basin: Architecture of the Wolfville Formation and Basin Evolution

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The Fundy Basin forms one of a series of early Mesozoic rift basins developed along the north-western Atlantic margin. It forms the conjugate margin to Morocco in the Central Atlantic. Syn-rift continental sediments were deposited during early Late Triassic times in the Fundy Basin. The sedimentary succession comprises the lower fluvio-aeolian Wolfville Fm, the overlying ephemeral fluvial/playa Blomidon Fm capped by basaltic lava (Olsen et al., 1989; Wade et al., 1996). Three sub-basins are present in the Fundy Basin: the Fundy sub-basin, the Minas subbasin to the east and the Chignecto sub-basin to the north.

The Late Anisian-Carnian Wolfville Fm displays a complex interplay of coarse and fine-grained fluvial sandstones, Aeolian dune deposits and alluvial fan sediments. This study focuses on the stratigraphy of, and correlation within the fluvial deposits. The palaeogeography of the Wolfville Fm is analysed by determining the size of the braided river system and by taking an allostratigraphic approach to the recognition and correlation of extensive bounding surfaces in the Minas subbasin. Comparison of the Minas sub-basin sediments with deposits from the Chignecto sub-basin suggests that a major fluvial system flowed to the northeast.

The bounding surfaces and cycles within both coarse and fine-grained fluvial units allow correlation across the basin and have the potential to predict sand-fairways for reservoir exploration.