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**The life and death of a Pennsylvanian meandering river**

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A detailed description is provided on the evolution of a Pennsylvanian meandering channel in northern Nova Scotia. The channel succession is located in the upper part of the Thorburn Member of the Stellarton Formation, which is a broad, partly fault-bounded, pull-apart graben-fill unit that developed in response to dextral movement on the Cobequid and Hollow fault systems during the Westphalian B Maritime Disturbance. Recent quarrying of the Thorburn Member using a twenty-foot mining saw to access a coal seam has resulted in an unparalleled exposure of a meandering stream succession lying above the coal seam. The quarry-face offers a detailed record of the impact a fluctuating climate can have on the evolution of a fluvial channel. The meandering sedimentary system which has produced a series of scroll bars is preceded and followed by periods of sheet flood deposition. The sheet flood successions were deposited under a relatively dry climate with a short and intense wet season, while the meander channel deposits are the manifestation of a more humid climate with steady precipitation that supported arborescent life. The sheet flood deposits contain pedogenic siderite bands and exhibit a complete lack of fossil trees. Fossil trees are, however, found on the embankment surface that is contemporaneous with the active meander channel. An occasional return to a more uniform, less-seasonal climate is indicated by a number

of well-defined channel-cuts within the sheet flood deposits that overlie the meander channel. These channel-cuts concentrated in the pre-existing depression that dates from the time when the meander channel was active. The last of these channel-cuts was not filled by sheet flood deposits, but from flow velocity reduction of the channelized stream that excavated it. This channel fill deposit marked the final episode in the life of the meander.