

## **Comparison Middle Ordovician Temperate Limestones in Ontario, with Modern Brazilian Temperate Carbonates**

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The Middle Ordovician of southern Ontario consists of a basal siliciclastic unit, the Shadow Lake Formation and a group of overlying carbonate units, the Black River and Trenton Limestone Groups. Microfacies association complexity and petrographic fossil diversity increase markedly across the Black River-Trenton Limestone contact and remain high throughout the Trenton Limestone. The microfacies and fossil association indicate that the Black River and Trenton Limestone were deposited in environmental complexes ranging from peritidal, subtidal, and shallow water to deeper carbonate ramp settings, in a temperate climate in the southern hemisphere. Analogous environments occur on the temperate Brazilian shelf, and these provide detailed modern equivalents of these ancient southern hemisphere carbonates.