

Trenton/Black River Hydrothermal Dolomite Reservoirs in Québec: The Emergence of a New and Highly Promising Play along the St. Lawrence Platform,

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The prolific Trenton/Black River hydrothermal dolomite (HTD) play extends across North America, from Texas all the way through to Newfoundland. Although the play has been very successful in the United States and in Ontario, it remains virtually untested in Québec. However, recent exploration work points towards the emergence of this play along the St. Lawrence Platform of Québec.

The Trenton/Black River succession forms part of the Cambro-Ordovician St. Lawrence Platform, which spreads over approximately 1,000 km in length from southern Québec (St. Lawrence Lowlands) through to Anticosti Island. In March 2007, Questerre Energy Corporation (minority partner) announced a significant discovery of natural gas from the Talisman Energy Gentilly #1 well, located 30 km to the east of Trois-Rivières on the south shore of the St. Lawrence River. Preliminary testing yielded flow rates of up to 4.5 million cubic feet per day. Regional time-structure maps of the top of the Trenton Group reveal the presence of several sub-parallel grabens (structural sags) in this area. These linear depressions appear to measure 500–1,000 m in width by up to 50 km in length, a scale which is comparable to that of the world-class Albion-Scipio Field (Michigan), and recent gas discoveries in the Finger Lakes area (southern New York) by Talisman Energy. Similar structures also occur in the Trenton/Black River interval on Anticosti Island, where hydrothermal dolomites associated with significant secondary porosity have been documented.