

## **Acadian tectonic wedging, stacking, and triangle zone in northeastern Gaspé Appalachians?**

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For the past century, eastern Gaspé Peninsula has generated interest for oil and gas exploration. Although oil shows and seeps are abundant, oil production has been minor and only one gas discovery has been identified so far. The hydrocarbon potential is restricted to Late Ordovician to Early Devonian rocks of the Gaspé Belt and different play concepts have been explored throughout the years.

The Acadian orogeny in the Gaspé basically involved dextral transpression during the Middle Devonian. Compression within the transpressive belt was initially accommodated and distributed over the entire area through the development of structures such as folds, cleavage and N-directed transport along reverse faults. Continued deformation brought about further flattening of the folds and resulted in dextral transcurrent faulting along steeply dipping strike-slip faults. Recent regional and detailed field work in the Saint-Jean River Anticline in eastern Gaspé documents S-verging folds and S-directed motion along N-dipping reverse faults. New seismic data acquired by the Ministère des Richesses naturelles du Québec (2000-2001) suggest intense shortening during the initial compressive phase. A new tectonic model is presented involving tectonic wedging, blind N-directed thrusting, S-directed backthrusting, and development of a triangle zone. The model offers an alternative interpretation for microstructural, isotopic and fluid inclusion data in eastern Gaspé (Kirkwood et al. 2001) and regional quantitative strain analysis data (Kirkwood 1999).