

# PETROLYMPIC

## **St. Lawrence Lowlands (Shale Gas and Conventional Gas Plays)**

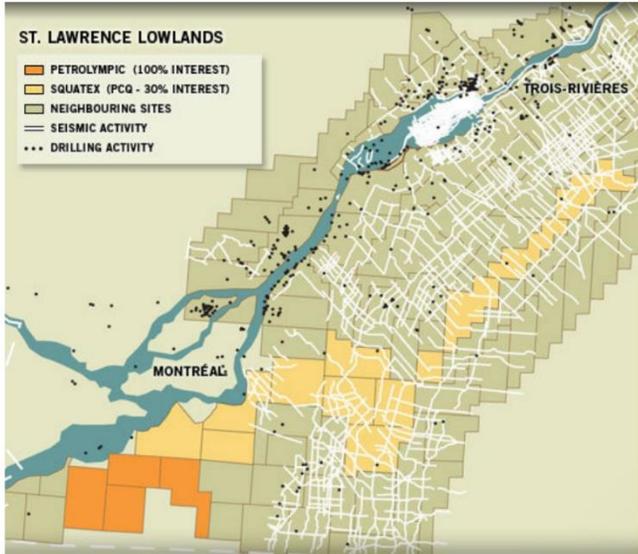
**Targets: Utica Shale Gas and conventional natural gas**

**Total Land Package: 674,805 acres (273,085 hectares)**

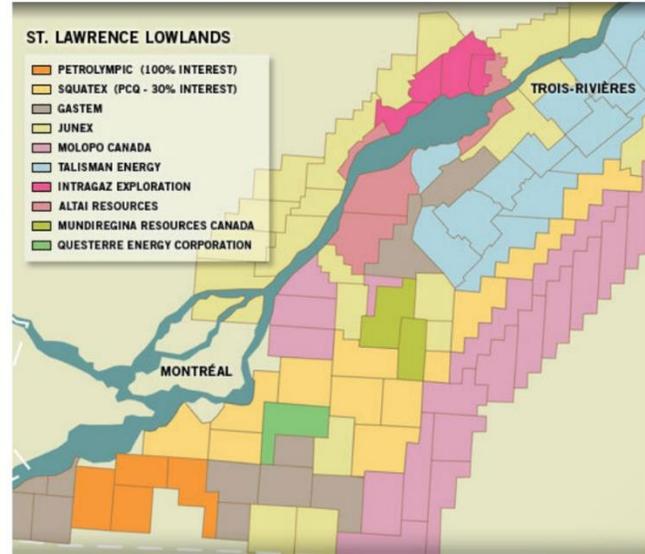
1. Petrolympic owns 100% of 138,754 acres (56,152 hectares) over the St. Lawrence Lowlands shallow sandstones and carbonates platform on the south shore of the St. Lawrence River, less than 30 kilometers southwest of Montreal.
2. Petrolympic owns 30% of 536,051 acres (216,933 hectares) with Ressources et Energie Squatex (70%) in the Utica Fairway and the underlying Trenton-Black River carbonates
3. Petrolympic owns another 12% of the total land package 19,768 acres (8,000 hectares) through an Agreement with Canbriam Energy in the Utica Fairway and the underlying Trenton-Black River carbonates

### **Highlights:**

- Major position in the emerging Utica shale gas play and in the Trenton-Black River hydrothermally dolomitized carbonates, along with adjacent shallow platform carbonates and sandstones
- Conventional and unconventional natural gas plays
- Significant resource potential on large land package (183 Tcf estimated for the whole Utica in the Lowlands by the Geological Survey of Canada in 2014)
- Several geochemical surveys performed to assist in the evaluation of drilling locations. Results show large anomalous gas seeping zones, one of which coinciding with an anticline fold near a major basement fault
- One shale gas well drilled by Canbriam Energy: the well “Farnham No. 1” drilled in the Lorraine and Utica down to the top of the Trenton Group to a total depth of 8,231 feet (2,509 meters). The well is suspended pending future testing
- An AVO (Amplitude versus Offset) seismic study performed over an east-west seismic line acquired in 2008, over the Utica Fairway, to better understand the lateral facies variations within geological formations
- Good acreage position in the industrial heart of Quebec, with a strong local need for natural gas



Map of Drilling/Seismic Activity



Map of other companies and their holdings in the area

## Market:

The area is located in the industrial heart of Quebec. It is easy of access and benefits from a well developed transportation infrastructure and a strong demand for natural gaz. A secondary gas pipeline network runs across the property and is connected to the main Gaz Metro line north of the St. Lawrence River. Oil-to-gas conversion programs are being promoted and favored by the government at local and regional scales through Quebec’s new Energy Policy unveiled in April 2016.

## Technical Information:

### 100% owned Property

Petrolympic holds a 100% interest over 138,754 acres (56,152 hectares) in three exploration permits granted in 2006 by the Quebec government. This Property is located on the south shore of the St. Lawrence River, less than 30 kilometers south of Montreal.

The Property lies in the southwestern limit of the St. Lawrence Lowlands sedimentary basin and is believed to have potential for shallow gas production. It is located in the shallow portion of a little-disturbed Ordovician carbonate platform underlain with thick sandstone series, near major normal faults that bring the Utica Shale source rock in contact with potential reservoir rocks in the Potsdam and the Beekmantown formations, thus providing trapping mechanisms for gas accumulations. The company developed an exploration program aimed at demonstrating the potential of this area. Numerous shallow and deep exploration wells have confirmed the presence of natural gas within the Property and its immediate vicinity.

## **Joint Venture Property**

Petrolympic also holds a 30% interest over 536,051 acres (216,933 hectares) in twelve exploration permits granted in 2006 by the Quebec government to JV partner Ressources et Energie Squatex (70%), the operator of this Property, and another 12% of the total land package over 19,768 acres (8,000 hectares) through an Agreement with Canbriam Energy. Petrolympic joined Squatex in a JV partnership in 2008. The Property is located on the south shore of the St. Lawrence River and extends west to east from the south of Montreal to the east of Drummondville.

The vast majority of this Property is located in the Utica Shale Fairway. The acreage also spans across the shallow and deep platform carbonates of the St. Lawrence Lowlands sedimentary basin where major normal faults bring the Utica Shale source rock in contact with potential reservoir rocks in the Potsdam, Beekmantown and Trenton-Black River formations. To the east the platform carbonates are thrust-faulted and stacked in tectonic slices. Known analogues to the plays present in this Property include the prolific Albion-Scipio Trenton-Black River reservoirs in Michigan basin and the Beekmantown tectonic slice in Quebec, the later being now used as an underground natural gas storage facility known as the Saint-Flavien reservoir. Numerous shallow and deep exploration wells have confirmed the presence of natural gas within the Property and its immediate vicinity.

The Utica Shale play has been subject to intense drilling and hydraulic fracturing activity between 2007 and 2010 but all efforts are currently suspended due to a de facto moratorium on hydraulic frustration. A new Hydrocarbons Law is expected in 2016. In the mean time exploration for conventional reservoirs is still possible and encouraged.