Northeastern Section - 40th Annual Meeting (March 14–16, 2005)

Paper No. 7-3

Presentation Time: 1:40 PM-2:00 PM

A REAPPRAISAL OF THE ALLOCHTHONOUS NATURE OF THE STANBRIDGE NAPPE OF SOUTHERN QUEBEC

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The Stanbridge Group (Nappe) of southern Quebec, consisting of a basal argillaceous limestone and upper limestone-bearing slates, has long been considered allochthonous. In contrast, directly along-strike in Vermont, the correlative Highgate and overlying Morses Line Formations are considered to be part of the thrust fault-imbricated Cambro-Ordovician carbonate platform (parauthochthonous). Field mapping of these units in Vermont has shown that the Highgate Formation and at least the lower section of the Morses Line Formation are in conformable relationship with the carbonate platform. A lack of outcrop in the eastern part of the Morses Line Formation precludes extending this interpretation to the entire formation. In Vermont's Highgate Gorge, the Highgate Formation conformably overlies the Gorge Formation (Milton Dolomite in Quebec) and is overlain by limestone-bearing slates that are interpreted to be part of the Morses Line Formation. The style of structural deformation (cleavage, minor thrust faults, en echelon veins) is relatively strong in the Morses Line Formation and decreases continuously into the more competent Highgate and Gorge Formations, without a significant structural break. The Highgate Falls Thrust, which interrupts the slate section in the Highgate Gorge and repeats the Gorge through Morses Line sequence, is traced nearly to the International Border where it disappears as it cuts up-section along at least one lateral ramp. The entire sequence is traced into Quebec to the northern termination of the carbonate units (Gorge and Highgate correlatives), a north-plunging anticline. The western limb of the anticline is truncated by the Rosenberg Thrust, which emplaces the Milton Dolomite and Stanbridge Group over the carbonates of the Phillipsburg Group. The results of this mapping indicate that the Stanbridge Group either needs reinterpretation (parauthochthonous) or redefinition to remove the basal limestones and at least part of the slate unit.

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General Information for this Meeting

Session No. 7
Late Ordovician Taconian Orogenesis: Structural Evolution and Foreland Basin History
Prime Hotel and Conference Center: Secretariat/Spectacular Bid Room
1:00 PM-5:30 PM, Monday, March 14, 2005

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