

The Multistage Development of the Dover Fault in Northeastern Newfoundland: The Late Stages

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A detailed study of the Dover Fault was carried out in order to unravel the history of the Gander-Avalon boundary in northeastern Newfoundland. As presently defined the fault is narrow, usually less than 200 m, and there are relatively few outcrops. It crosses the Hare Bay Gneiss and we believe that it is only a minor portion of a broader, older deformation zone associated with the juxtaposition of the Gander and Avalon terranes. However, our discussion here is restricted to this late structure which might be referred to as the Dover Fault *sensu stricto*.

The relationships that can be observed indicate four stages of development. The oldest stage preserved is a dextral strike-slip movement in the ductile regime while the rocks were at lower greenschist metamorphic facies. This stage was followed by a period of complex movement in the brittle-ductile field with normal, reverse and dextral displacements. Breccias associated with the fault are coeval with at least part of this later deformation. Finally, the breccias are overprinted by brittle, dextral faults.