

overthrust that was elevated during emplacement of the intrusion. The early Silurian age of the Taylor Brook gabbro however suggests that the timing of these structural relationships and emplacement of the massif is early Appalachian (Taconic or Salinic) and is likely to have significant implications on the timing of emplacement of the Taconic allochthons in the western Newfoundland Humber Zone.

**The southern Long Range inlier, Newfoundland:
evidence for early Appalachian thrusting of
Paleozoic metasedimentary rocks within
a Proterozoic basement massif**

ALANA M. HINCHEY AND IAN KNIGHT
*Geological Surveys Branch, Newfoundland and Labrador
Department of Natural Resources, P.O. Box 8700,
St. John's, Newfoundland and Labrador A1B 4J6,
Canada <alanahinchey@gov.nl.ca>*

The Long Range Mountains of western Newfoundland contain one of the largest exposures of Proterozoic crystalline basement rocks within the Appalachian orogen, the Long Range Inlier. Recent regional bedrock mapping in the Silver Mountain and Bonne Bay areas suggests that it is not a simple stratigraphic inlier, but rather represents a massif reactivated during early Appalachian deformation. The basement rocks of the inlier comprise the largest portion of the external Humber Zone, considered to be the foreland belt of the Appalachian orogen. The inlier forms a structural culmination that is bounded to the west, north, south, and locally to the east, by Proterozoic to Paleozoic volcano-sedimentary cover rocks.

The southern part of the Long Range Inlier is broadly divisible into the following tectonic divisions: (a) high-grade Long Range gneiss complex; (b) foliated plutonic rocks, dominantly Grenvillian in age; (c) mafic dykes (Long Range dyke swarm); (d) thin remnants of a latest Neoproterozoic to Early Paleozoic cover sequence (previously interpreted as Grenvillian in age); and (e) Early Silurian gabbroic intrusions (ca. 430 Ma Taylor Brook gabbro) and minor felsic dykes, sills, and porphyries.

The latest Neoproterozoic to Early Paleozoic cover sequence is a quartzite-marble-dolomite sequence that is restricted peculiarly to the flanks of the Taylor Brook gabbro near Silver Mountain. These strongly recrystallized rocks compare to polydeformed Paleozoic metasedimentary rocks that lie below, and are carried unconformably upon, thrust Proterozoic basement near Bonne Bay Big Pond at the southwest of the inlier. This indicates that the inlier may be thrust above the cover sequence along its southern edge. In the Silver Mountain area, the metasedimentary units flank the Taylor Brook gabbro and could either be thrust onto the Long Range Inlier, the structure later utilized during emplacement of multiple magmatic pulses of the gabbro, or form part of the footwall to the Long Range