

Defining the Stratigraphy of the Meguma Supergroup in Southern Nova Scotia: Where Do We Go from Here?¹

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In 1998, the Nova Scotia Department of Natural Resources began a major bedrock mapping initiative in the Meguma Group of southern Nova Scotia to produce a series of 1:50 000-scale geological bedrock maps. As a result of mapping, combined with follow-up geological studies, a redefinition of its stratigraphy is now justified. As previously proposed, the lower metasandstone-dominated Goldenville Formation and upper slate-dominated Halifax Formation should be formally elevated to 'group' status. Mapping has demonstrated that both formations can themselves be subdivided into formations and members. Thus, the Meguma Group will be elevated to a 'supergroup'. The Meguma Supergroup can be divided into two distinct stratigraphic packages separated by the Chebogue Point shear zone (CPSZ). In the Digby-Yarmouth area (west and northwest of the CPSZ), the lower part of the Goldenville Group is the metasandstone-dominated Church Point Formation, whereas the upper part consists of metasilstone of the Bloomfield Formation. Units in the overlying slate-rich Halifax Group are the Acacia Brook Formation and overlying Bear River Formation. East of the CPSZ in the Pubnico-Chester area the lowest unit in the Goldenville Group is a metasandstone/metasilstone package termed the Moses Lake Formation. The Moses Lake Formation is overlain by the metasandstone-dominated Green Harbour Formation, which is similar in appearance to the Church Point Formation. The middle part of the Goldenville Group consists of metasandstone/metasilstone assigned to the Government Point Formation. No equivalent unit is recognized in the Digby-Yarmouth area. The upper part consists of Mn-rich metasilstone of the Moshers Island Formation. Although this unit appears to be the stratigraphic equivalent to the Bloomfield Formation, no Mn-rich beds have been found west of the CPSZ. Units in the overlying slate-rich Halifax Group include the Cunard and overlying Feltzen formations. The Church Point Formation of the Goldenville Group contains a metasilstone unit (High Head Member) with a distinctive trace fossil assemblage characteristic of the boundary between the Neoproterozoic and Phanerozoic, suggesting that the Goldenville Group below this member extends into the Neoproterozoic. The upper part of the Government Point Formation has yielded early Middle Cambrian trilobite fossils of Acado-Baltic affinity. The upper part of the Bear River and Feltzen formations locally contains the Early Ordovician graptolite *Rhabdinopora flabelliformis*, suggesting that the underlying Acacia Brook, Cunard, Bloomfield, and Moshers Island formations are Middle to Late Cambrian, and that a significant unconformity exists between the Halifax Group and the overlying late Ordovician - Early Silurian White Rock Formation. A revised minimum thickness for the Meguma Group is 10 km. One of the most significant obstacles to formalizing the proposed stratigraphy in the Meguma Supergroup is gaining acceptance of the new subdivisions among geologists. Hence, establishment of a joint working group is proposed to reach consensus on the proposed divisions and avoid confusion in the geological literature.

¹Presentation at the 34th Colloquium and Annual Meeting, Atlantic Geoscience Society, February 1-2, 2008, Dartmouth, Nova Scotia.