
**Preliminary bedrock geology of the
Tusket (20P/13) map sheet, southwestern Nova Scotia**

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Geological bedrock mapping (1:10 000 scale) related to the Southwest Nova Scotia Mapping Project continued through the summer of 2001 on the Tusket map sheet (20P/13), in southwestern Nova Scotia. The oldest stratified units in the map area are the

Cambrian to Early Ordovician Goldenville and overlying Halifax formations of the Meguma Group. The Goldenville Formation occurs in the western part of the map area and consists of grey, thick-bedded, featureless metasandstone that locally contains numerous “vugs” of weathered-out calc-silicate nodules. Black sulphide-rich spotted slate is locally interlayered with the metasandstone. The Halifax Formation consists of grey spotted slate, although textural and lithological features vary depending on metamorphic conditions. As metamorphic grade increases, the Halifax Formation is characterized by the development of porphyroblastic staurolite and andalusite granofels and schist. Around the western and northern margins of the Barrington Passage Pluton the Halifax Formation consists of garnet-sillimanite granofels and schist, whereas on the eastern side the formation is migmatitic in character. The contact with the Goldenville Formation is not exposed.

The latest Ordovician to Early Silurian White Rock Formation outcrops in the northwestern margin of the map area. Here it is composed mainly of amphibolite interlayered with staurolite-biotite schist and quartzite. It is separated from the Meguma Group by the Cheboque Point shear zone.

The ca. 375 Ma Barrington Passage Pluton intrudes rocks of the Meguma Group in the eastern part of the map area and consists of medium-grained, locally well-foliated biotite tonalite gradational to quartz diorite. Dykes of pegmatite and biotite-muscovite granite are common. The northern margin of the pluton has an irregular outline due to the abundance of garnet-sillimanite granofels and schist xenoliths. This area probably represents the roof of the pluton whereas the migmatitic rocks on the east presumably represent deeper depths.

Units in the Meguma Group have been folded into regional, north-trending F1 folds in the southern part of the map area and northeast-trending F1 folds in the north, with an axial planar cleavage during the Devonian Acadian orogeny. Deformation was accompanied by greenschist- to amphibolite-facies metamorphism that resulted in an eastward increase in metamorphic grade from biotite zone in the west to garnet-sillimanite assemblages in the east. The presence of a locally prominent steep to moderately north- and northeast-plunging mineral lineation defined by elongate andalusite and sillimanite in the granofels and quartz rods in the tonalite suggests that the pluton in this area may be syntectonic with respect to regional deformation and metamorphism.

The Late Carboniferous Wedgeport Pluton intrudes metasandstone of the Goldenville Formation in the southern part of the map area. It consists of a medium-grained, biotite-bearing monzogranite. Olivine-bearing diabase and lamprophyric dykes are rare, but intrude both the Wedgeport Pluton and adjacent Goldenville Formation.