

***Geology of the Ingonish River area, Cape Breton Island, Nova Scotia***

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The eastern Cape Breton Highlands are tonalitic plutons, and continued emplacement characterized by metamorphosed and development of granitoid plutons. Three north-trending miogeoclinal rocks, gneisses and south trending belts are recognized. A

western belt, in the central Highlands, is composed of monotonous interlayered ortho- and paragneisses which have undergone at least two phases of penetrative deformation. A central belt is composed of a package of pelitic, semipelitic and calcareous sedimentary rocks, with interbedded tuffaceous and basaltic layers, which are tentatively correlated with the Hadrynian George River Group. Metamorphic grade ranges from chlorite to sillimanite and includes relatively low pressure sillimanite + staurolite assemblages. Isoclinal folds with 5 km amplitudes, outlined by a series of marbles and quartzites, represent the core of a major anticlinorial structure, plunging to the SSW. The contact between the western and the central belts is a major mylonite zone, 50 to 600 m wide, parti-

ally recrystallized in the greenschist facies.

An eastern belt consists entirely of varied granitoid rocks. Most westerly is a strongly foliated micaceous diorite which intruded the metasedimentary units of the central belt. It is separated to the east from a complex of largely medium grained dioritic rocks by large bodies of coarse-grained variably foliated tonalite and granodiorite. The easternmost granitoid unit is biotite granite of the Cape Smoky pluton which has given an Ordovician to Silurian isochron age. The youngest intrusions in the area occur in the north and include megacrystic granites and aplite and pegmatite dykes which are inferred to be Devonian in age.