

**Geological Mapping of the North Mountain, Northern Cape Breton
Highlands, Nova Scotia**

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Geological mapping in the northernmost Highlands of Cape Breton Island during 1985 continued a project which involves mapping and petrologic studies of the Precambrian and Paleozoic crystalline rocks of the entire Highlands. The 1985 map area consists of two zones of contrasting lithologic character. The bulk of the area, west and north of major fault/mylonite zones, is underlain by the "western gneissic complex", a complex assemblage of quartzofeldspathic gneiss, amphibolite and syenitic gneiss. Anorthosite occurs in small plutons and dykes within the gneissic complex. Our mapping has redefined the distribution of previously mapped anorthosite, identified the presence of a major additional body, and established the intrusive relationship between anorthosite and the gneissic complex. Mappable bodies of monzodiorite occur in apparent close association with anorthosite in the southern part of the

map area. These are intruded by abundant dykes and small plutons of syenite and granite. Syenite also forms a large intrusion in the northern part of the map area. This unit is particularly significant because the Meat Cove zinc deposit and other sulphide showings occur in association with marble xenoliths within the syenite.

The map area south and east of the major fault zones includes two major units of stratified rocks: the predominantly gneissic Cape North Group and the predominantly schistose Money Point Group. These groups were originally identified by previous workers on the Cape North Peninsula but can be traced south from the peninsula in a continuous belt for at least 15 km. The rocks of the Cape North Group include a wide variety of lithologies, but are characterized by the ubiquitous presence of gneissic semipelitic and pelitic lithologies. In addition, there are substantial amounts of amphibolitic rocks,

and smaller amounts of psammitic and calcareous lithologies. All of these lithologies are abundantly intruded by granitoid sheets and lenses. The Money Point Group consists of low to medium grade pelitic and semipelitic rocks with minor amounts of psammitic and mafic rocks. The predominantly volcanic sections of the Money Point area do not occur in the area to the south. All the rock types in the group are

closely interbedded and it has not been further subdivided.

In addition to the lithologies described above, abundant granitic plutons and granitic and mafic dykes are found throughout the map area. Rhyolites and associated units of the Fisset Brook Formation occur locally around the periphery of the crystalline rocks.