

DESCRIPTIVE NOTES

The southern parts of Madame and Petit-de-Grat Islands are covered with low, rolling hills on which rock exposures are scarce. The eastern tip of the Nova Scotia mainland is also low and rolling, but with plentiful rock exposures.

Volcanic rocks and chlorite schist (1) that lie beneath the Horton on Madame and Petit-de-Grat Islands, are correlated on lithological grounds with the late Proterozoic Fourchu group of southeastern Cape Breton Island. They are probably the oldest rocks in the area.

The Goldenville formation (2) forms the lower part of the Meguma series, which extends along the south side of Nova Scotia for some 275 miles. This series has been ascribed by different workers to almost every period between Precambrian and Silurian. Crosby¹ has shown that rocks believed to be Meguma, but separated from the main occurrence by granite, are of Silurian age. For the time being, however, the Meguma as a whole can best be described as pre-Devonian. Only well indurated, light to dark grey quartzite is exposed in areas of 2, but bands of slate are believed to be interbedded with the quartzite because they are found in other parts of the province where exposures are better. Moreover, rocks injected by intrusions (4) are believed to have been slate, which does not occur in the Fourchu group.

Granitic rocks (3) intrude both 1 and 2. On the mainland and islands near Canso, most of these are a light grey, white weathering, coarse, biotite-muscovite granite, consisting of orthoclase and quartz, with some muscovite and biotite, and less than 10% of oligoclase. Dense, aphanitic, light pink rhyolite (3a) intrudes Fourchu rocks on Madame and Petit-de-Grat Islands. These rhyolites are believed to be genetically related to the granitic rocks of Cape Canso and elsewhere in Cape Breton Island, for which a Devonian age is established.

Near Glasgow Harbour, the granitic rocks (3) cut the Goldenville quartzites (2) sharply, but south of, and northeast of, the town of Canso they are separated from the sedimentary rocks of the Goldenville group by a transitional zone (4). In general, these transitional rocks may be distinguished from the sedimentary rocks by a gneissic banding produced by aligned feldspar crystals in a dark grey, apparently bedded rock, and from the normal granite by their dirty grey colour and a pronounced gneissosity due to aligned biotite flakes. The shale or slate members of the Meguma rocks are believed to have been particularly susceptible to this type of granitization and injection. Greyish, granitized metamorphic rocks are exposed on Green Island, which much resemble the altered Meguma beds on George Island but may be granitized equivalents of Fourchu rocks (1).

Horton beds (5), of lower Mississippian age, are the youngest rocks in the area and lie with profound unconformity on Fourchu and granitic rocks. The rare exposures are all of rubble conglomerate. Just to the north of the area, however, minor sandstone and shale beds are interbedded with these rocks. No attitudes can be seen in the conglomerates, but the structural trend can be inferred from the base of the Horton.

¹Crosby, D.G.: Wolfville Map-area; Geol. Surv., Canada, Mem. in preparation.

LEGEND

PALÆOZOIC	MISSISSIPPIAN		
	HORTON GROUP	5	Conglomerate; minor sandstone and shale
	DEVONIAN	3	Granitic rocks; 3a, rhyolite
	PRE-DEVONIAN		
PROTEROZOIC	MEGUMA SERIES		
	GOLDENVILLE FORMATION:	2	quartzite, slate; may be older than 1
	FOURCHU GROUP	1	Volcanic breccia, tuff; chlorite schist; Late Proterozoic
		4	Granitized and injected bedded rocks

Rock outcrop x
Bedding (inclined, vertical)

Geology by L. J. Weeks, 1949

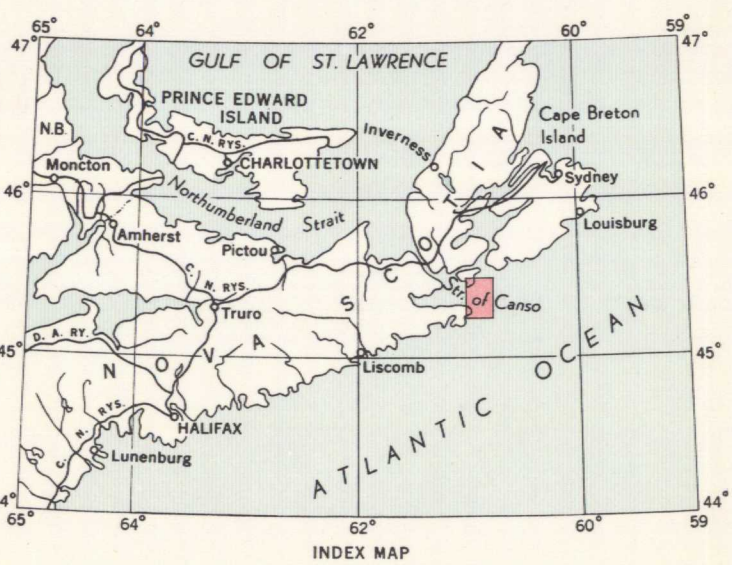
- Road, all weather
- Road, dry weather
- Trail or portage
- Building
- Church
- School
- Post Office
- Lighthouse
- Wharf
- Intermittent lake and stream
- Marsh
- Sand
- Reef, rock or small island
- Contours (interval 50 feet)

Cartography by the Geological Survey of Canada, 1959

Base-map prepared by the Surveys and Mapping Branch

Air photographs covering this map-area may be obtained through the National Air Photographic Library, Topographical Survey, Ottawa, Ontario.

Approximate magnetic declination, 24° 22' West



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MAP 1074A

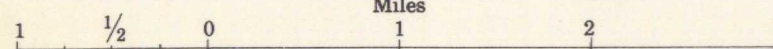
GEOLOGY

CAPE CANSO

GUYSBOROUGH AND RICHMOND COUNTIES

NOVA SCOTIA

Scale: One Inch to One Mile = 1/63,360
Miles



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