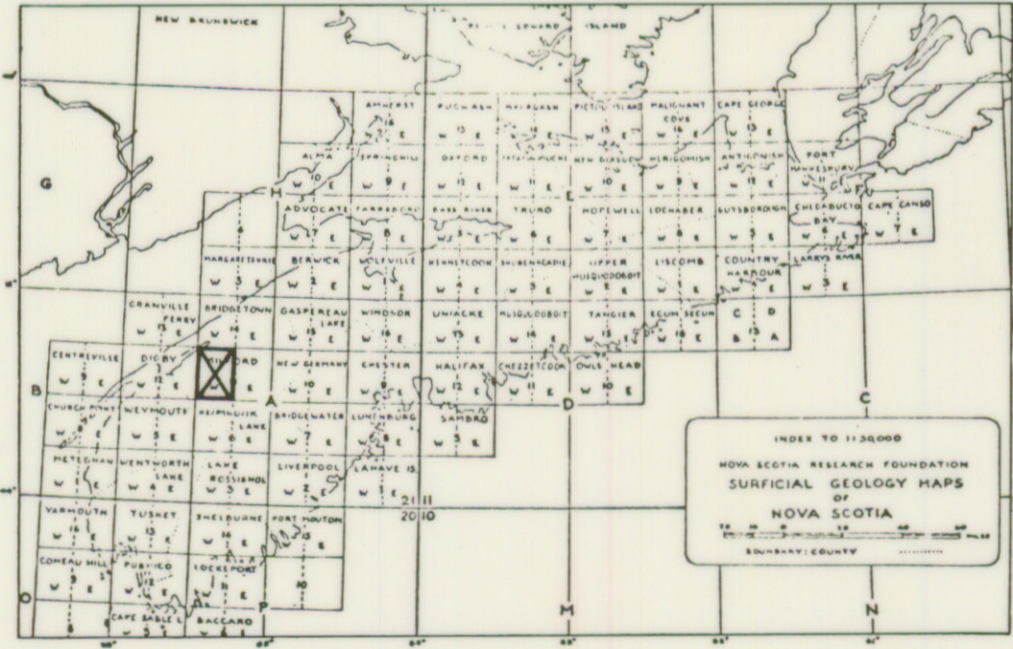
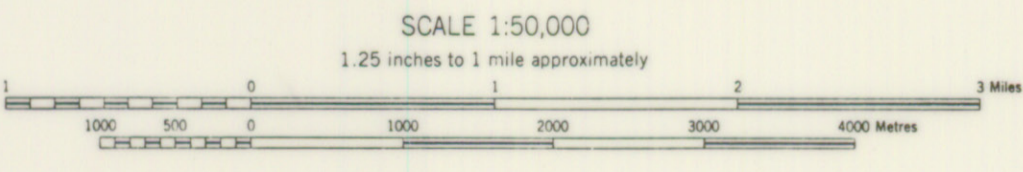




Geology by R.H. Mac Neill, 1956



**MILFORD 21A/11W
SURFICIAL GEOLOGY**



LEGEND	
DRUMLIN & MORAINE	
KAME	
ESKER	
DELTA	
TILL AREAS (undiff.)	
SWAMP	
ROADS & TRAILS	
STREAMS	
GLACIAL STRIAE	

DESCRIPTIVE NOTES

QUATERNARY GEOLOGY

Drumlins and Till

The western part of the area is quite liberally sprinkled with drumlins, and a considerable number is also to be found in the eastern half of the sheet, but these thin out to the south and east, due to the lack of debris rather than to an absence of glacial action. Large percentages of the material has been derived from the areal bedrock with some southward-transported material from the Meguma, Devonian, and Triassic rocks. Evidence also exists of a later ice movement in a northwest to north direction, in that some of the granite from the South Mountain is found north of its normal outcrop area. This has also been observed in other areas.

The material in the drumlins and till is well packed and brown or grey in colour. Shear planes often show in some drumlins while a granular, hackly, or "cheese-like" fracture may be found in others. Sand lenses are to be found in some of the drumlins, and these lenses frequently show evidence of a thrust action from the direction of ice advance.

The till is usually hard-packed and tends to be red-brown, brownish-red, or grey in colour and very sandy or silty, and is similar to the debris found in the drumlins.

Kames and Eskers

Kames occur at Lequille, Swans Brook, Private Lake, Perrott Settlement, east of Sandpiper Brook, near Cady, Baillie, Kelly and Sandy Bottom Lakes west of Gull Lake, Sundown Lake and Frog Lake, east of Salmon Lake, near Duland Lake, and in other scattered localities. The eskers of the region run in a south-easterly to northwesterly direction and are often associated with kames. This is similar to an area south of Snowshoe Lakes and west of the Medway River which also contains many small kames. Several of these areas are to be found in Nova Scotia. The eskers are sometimes compound ones, and have a broader bottom area than the more "conventional" slim, sinuous type.

Materials

Most of the material in the drumlins and till is sandy with some clay and much rock flour. The rocks are of all sizes up to 4-foot boulders and are predominantly granite. Considerable tholeiite (usually referred to as basalt) from North Mountain is to be found, a lesser amount of quartzite, and minor amounts of slate. Very little felsitic rock and only traces of schists were found.

The glacioluvial sediments in kames and eskers are silts, sands, granules, pebbles, cobbles, and boulders, mainly of granite residue with some Meguma quartzite and slate and traces of Triassic tholeiite from the North Mountain area of Nova Scotia.

Ice Movement

The general movement of glacial ice was from the northwest. The alignment of the drumlins and smaller drift ridges, the plucking of bedrock, and the glacial marks bear this out. Striae indicate a direction of ice movement to the south-southeast (320°-140°) and there is also evidence of a minor westward movement from a local centre postulated to have been located to the eastward near Skull Bog Lake.

This last movement had minor effects on the pre-existing deposits, modifying their shape but not generally destroying them, and often depositing fillets of gravel on the westward sides of the drumlins. In Milford, deeply weathered biotite granite appears under some of the drift. The glacial ice has not eroded the bedrock to any great extent, and most of the drainage is modified pre-glacial. Some minor filling of pre-glacial stream channels occurred but these have since been at least partially cleared of debris. The ages of the tills have not been determined, but are considered to be late Wisconsin and possibly equivalent to those of the Mankato and Valders or Cochrane sub-stages.