TUSKET 20 P/13 E

SURFICIAL GEOLOGY

SCALE 1:50,000

1.25 inches to 1 mile approximately

1 0 1 2 3 Miles

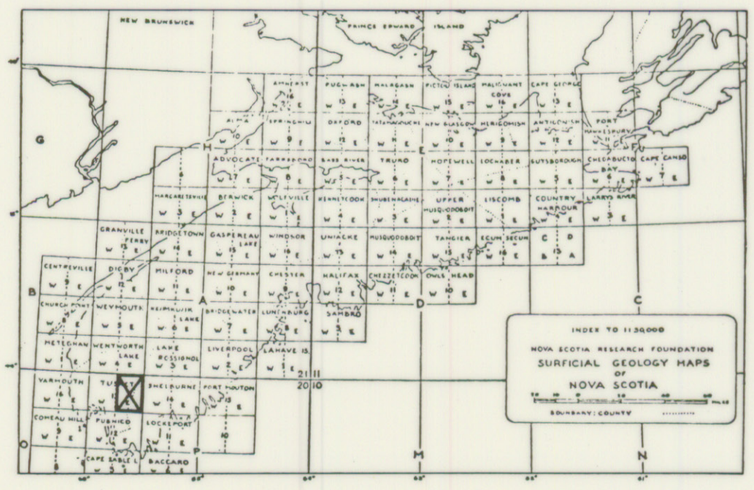
1000 500 0 1000 2000 3000 4000 Metres

NOVA SCOTIA RESEARCH FOUNDATION CORPORATION

Geology by R.H. Mac Neill, 1956

LEGEND

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



DESCRIPTIVE NOTES

INTRODUCTION

Western Nova Scotia is underlain for the most part by metamorphic rocks of the Meguma Group, Devonian sediments and intrusives, Triassic sediments and intrusives, and intrusives of undetermined age. The surface is part of the peneplaned southern upland of Nova Scotia. The whole area has been glaciated during the Pleistocene Epoch, and a considerable amount of drift was left in some areas, while only a small amount was left in other parts of this map area. In general, the non-fluvial deposits of glacial drift are directly related to the bedrock traversed by the advancing ice sheets in their north-to-south movement. The slates readily provided material, while quartzites, granites, and basalts were generally not good sources of drift material. Local glaciation occurred following the Wisconsin advance(s).

GENERAL

The west half of the Tusket sheet (20 P/13) contains numerous drumlins in the Deerfield, Argyle, and Glenwood areas. Other drumlins occur in the Amirault Hill, Quinan, Tusket, and Lake Vaughan areas. An occasional drumlin of size may be seen in the eastern part of the map area. The bedrock is covered by a till which varies from a mere veneer to many feet in depth. Much of the Tusket map sheet area is quite barren with many rock outcrops and outcrop areas. The glacial cover consists of sandy and gravelly till with finer deposits of rock flour and silt-sized particles of rock waste. Sand and gravel occurs in the glaciofluvial deposits. Many parts of the area appear to have been worked over by waters from the melting ice sheet(s). Pre-existing forms were modified to such a degree that they are false forms, and the true form is discovered only when the internal structure is known. It is usually possible to determine the type of deposit by digging holes two or three feet deep. Kames have been re-shaped into drumlin form.

Kames are found as isolated units as well as in nests, and are generally related to the eskers. These eskers generally run in a north-northwest to south southeast direction, although some deviate from this general direction by as much as 30 degrees, thus trending north-south. Most of the eskers are associated with the river valleys, which are of pre-Pleistocene origin, and their associated plains.

DRUMLINS

Most of the drumlins are made up of small boulders, rock fragments, and the matrices are formed from a very sandy and rock flour material. The amount of clay is small, but much rock material of the texture of silt (less than 1/16 mm) is present. Some of the drumlins exhibit stratification in the internal parts (possibly re-shaped kames), while others show none at all. Others, again, show traces of stratification on the outside, testifying to the ablation deposition. None of these drumlins contain any appreciable number of large boulders - most of the rocks are small, in the order of one to two inches, with a few six inches or larger in diameter. The general appearance of the drumlin material is that of a floury to sandy, somewhat rocky, whitish to grey, well-packed drift.

OUTWASH AND/OR DELTAS

Difficulty was experienced in differentiating between the deltas and/or outwash of Pleistocene age from those of the Recent/Post-Pleistocene. Often the division could only be made tentatively, based on information secured from the local inhabitants: dug-up tree branches and/or trunks which were found during well-digging operations along the river terraces. None of this material was obtained.

KAMES

Kames were usually of fine gravel and sands, sometimes well sorted, and sometimes with little or no sorting, but all were well stratified. Some of them had a veneer of till, while others showed no change in material on the surface except that which was caused by the action of plants and/or animals. Two kame areas occur between Pulldozen Lake and the Potter Run Brook area (this extends southward into the Pubnico map area). An area of kames occurs in the Tusket Falls area, one south of Quinan, and one in Wedgeport. Many small lone kames are to be found over the whole map area. Other areas contain kames and are only tentatively outlined.

ESKERS

Eskers of major size occur east of Mespark Lake, northwest of Great Pubnico Lake, west of Turtle Pond, west of Nonie Lake, and along the Hamilton Creek-to-Clyde River area. Smaller eskers are to be found east and southeast of Wallubek Lake and in scattered localities over the map area.

STRIAE

Striae are only infrequently found. Those noted trended 355° - 175°, or roughly north-south, with a few deviating from this by a few degrees.

ICE STAGES/SUB-STAGES

Evidence of two ice advances has been found but no definite date other than "Wisconsin" has been determined. Variation within the drift, and change of pattern within the deposits is attributed to the sub-stages of the Wisconsin rather than to part of the drift being of Illinoian age or older. No weathered profiles or gumbotils were seen, thus obscuring the age picture, but the age is tentatively that of the Caryan and/or Mankatoan sub-stage.

LOCAL GLACIATION

Modification of drumlins and kames of the Wisconsin drift sheet, the burying of low eskers, and the reverse movement of boulders indicate that local glaciation took place during or after the final stages of the Wisconsin ice advances.