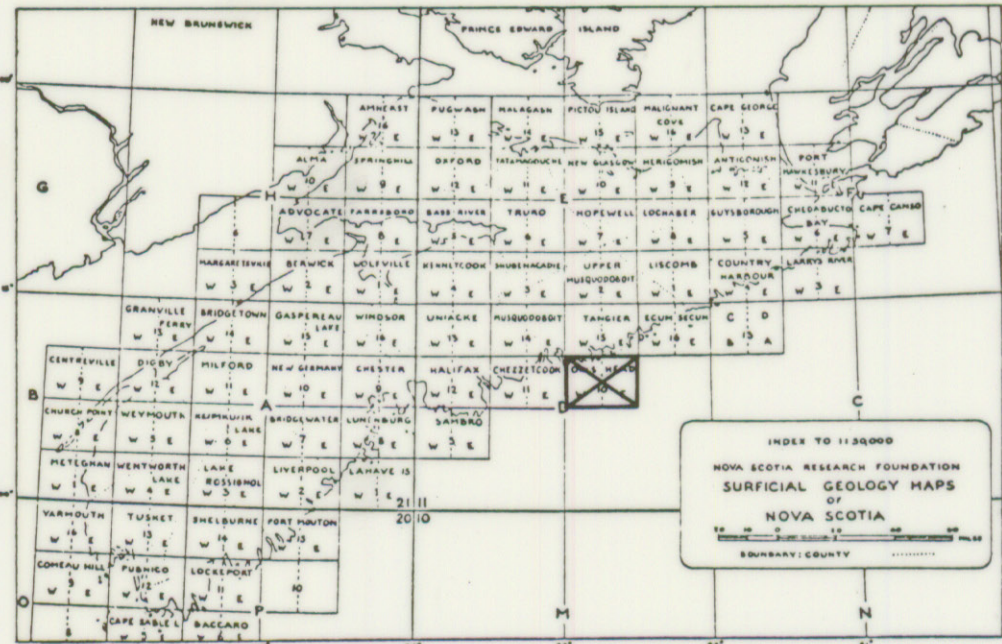


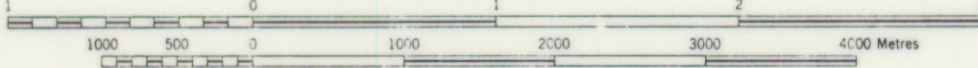
Geology by R.H. Mac Neill, 1956



# OWLS HEAD 11D/10W & 10E

## SURFICIAL GEOLOGY

SCALE 1:50,000  
1.25 inches to 1 mile approximately



NOVA SCOTIA RESEARCH FOUNDATION  
CORPORATION

### LEGEND

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

### DESCRIPTIVE NOTES

#### GENERAL

The Owls Head map area has an undulating to gently rolling topography. Elevations are low ranging from sea-level along the coast to slightly over 200 feet in the north. The headlands along Clam Bay provide good exposures of till and bedrock.

#### BEDROCK GEOLOGY

The area is underlain by the greenish-grey quartzites, and the dark grey slates of the Meguma Group, which is Ordovician in age. The outlying

islands with the exception of Long Island, and the area south of Owl's Head Harbour remains bare bedrock.

#### QUATERNARY GEOLOGY

##### Ice Movement

The numerous outcrops in the map area expose several sets of striae and grooves on the polished Goldenville quartzites ranging from 300° to 120°, to 355° to 175°.

##### Till and Drumlins

A thin discontinuous mantle of till covers the area. The till is a stony, greyish-brown to brown, sandy silty type. Rock fragments are predom-

inantly locally derived sub-angular quartzites. Granite, slate, sandstone, gneiss, felsic and mafic volcanics constitute from 10 to 15 per cent of the rock fragments.

The drumlins are confined to the north central part of the map area. These drumlins are dark reddish-brown in colour with a firm clay matrix. Rocks in the matrix are sub-angular to sub-rounded polished and striated greenish-grey quartzites, and lesser quantities of sandstone, shale, siltstone, slate, granite, rhyolite, and felsic and mafic volcanics.

##### Glaciofluvials

Glaciofluvial deposits are located in the Grassy Lake area, with a

second area of deposition one mile east of Clam Bay.

The glaciofluvial deposits at Grassy Lake consist of several kames, an esker and outwash delta are a direct continuation from the area to the north at Lake Charlotte. The outwash delta has a rough kame and kettle topography due in part to the unevenness of the underlying bedrock surface and partly to the melting of buried ice blocks. The esker south of the delta is broad, flat-topped and bifurcated, suggesting formation in an open channel as meltwater entered Clam Bay. Several areas have been excavated in preparation for the installation of fish tanks by Sea Pool Fisheries Limited. These areas have stratified bouldery gravel, stony gravel and coarse sand debris.

The deposits east of Clam Bay consist of several kames and a small esker. The kames have formed on the side of the hills as meltwater flowed off the ice mass into Clam Bay. The material, as exposed in borrow pits, ranges from a cobbly-pebble stratified gravel to a fine gravel containing fine brown sand. Rock fragments are predominately quartzites and iron stained slate.

##### Miscellaneous

The four-mile stretch of coastal beach along Clam Bay is part of the long chain of fine sand beaches formed by wave action along the coastline of Halifax County.