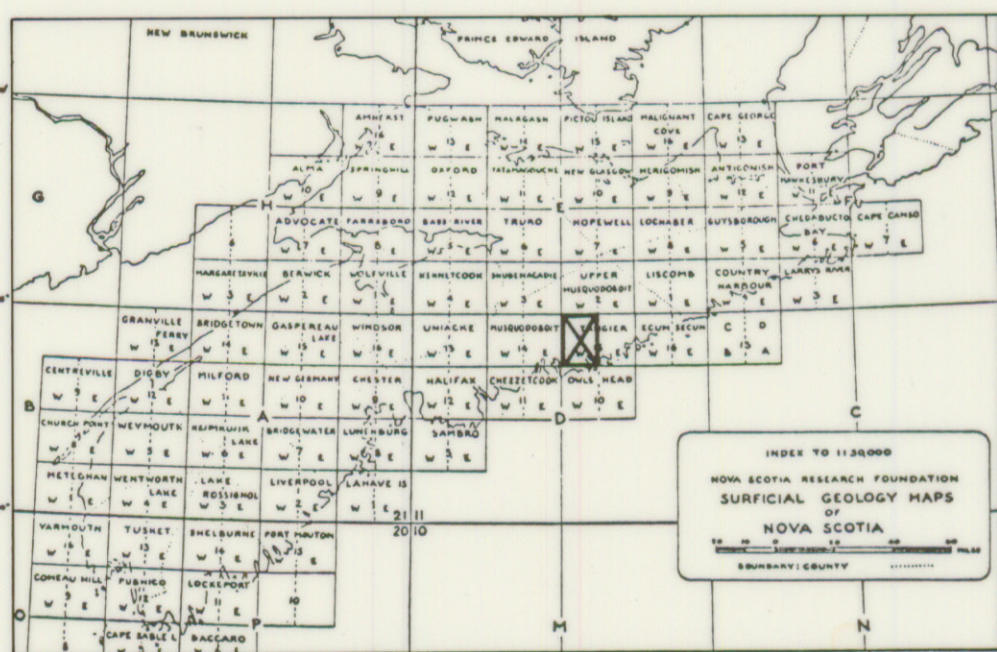




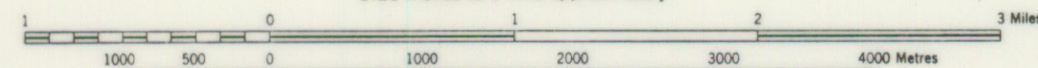
Geology by R.H. Mac Neill, 1956



## TANGIER 11D/15W 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 map area is an undulating plain rising gently from sea-level along the coast at Ship Harbour to an altitude of slightly over 150 metres along the northern boundary.

**BEDROCK GEOLOGY**  
The area is underlain by slates and quartzites of the Meguma Group. These rocks have been steeply folded in the Scraggy Lake area. The slates being softer have eroded more rapidly and consequently broad areas of quartzite enclose narrow bands of slate. The Devonian granites have intruded these rocks, enclosing an area of over 50 square km from Lake Charlotte through to Tangier Grand Lake.

#### TILL AND DRUMLINS

The ice sheet moving over the area has scoured out basins, creating many lakes and moraines, but has redeposited extremely little till over the area, and consequently the streams have not been able to cut into till in order to drain these lakes. As a result, drainage is haphazard and patternless.

Till cover in the Lake Charlotte-Ship Harbour area is just a smear, with bedrock outcropping along the highway every few hundred metres. The till is generally light brown in colour with a sandy-silty to clay-rich matrix, the predominant rock type being quartzite, with smaller quantities of slate and granite.

The thickness of the till increases to an average of 1.2 m in an area 5 km

south of Ship Harbour. The reddish-brown till here is in great contrast to that in the adjacent areas. The pebbles are smooth and sub-rounded with an increase in the quantity of brown siltstone and sandstone in the matrix.

Till in areas underlain by granite ranges from grey to brownish-grey in colour with a sandy matrix. Over 90 per cent of the rocks in the matrix are granite with the remaining 10 per cent consisting of quartzite. The most characteristic feature of this type of country is the great amount of granite boulders piled one upon the other. These areas are generally inaccessible to travel other than by numbering to a very limited extent.

Drumlins in the area have good form and are generally confined to the slates and quartzites of the Meguma Group. The

drumlins are hard-packed brown to brownish red in colour with a clay-rich matrix. Rocks in the matrix are sub-rounded pebbles of quartzite, slate, granite, siltstone and traces of mafic and felsic volcanics.

**GLACIOFLUVIALS**  
Ice contact stratified drift is absent from the northern area except for a few small kames on the side of hills near the lakes.

The largest glaciofluvial deposits in the southern map area occur in the Upper Lakeville-Lake Charlotte area. The deposits range from kames to deltas and eskers.

The kames at Upper Lakeville contain stratified gravel and sand, some of which has been cemented. The kame deltas

formed when meltwater flowed off in the higher elevations in the north-west and became ponded along the edge of the present Lake Charlotte. The material in these kame deltas so formed consists of thick stratified beds of brown and grey sand. Kames of various sizes and shapes are found south of Lake Charlotte. A few consist of stratified brown sand, while the others consist of gravel and sand.

An outwash delta on the southern end of the lake forms the road bed for about 0.3 km. This delta, together with several kames, blocks a southern drainage of Lake Charlotte and forces water to flow eastward and drain into the ocean via Ship Harbour. Two large borrow pits in the delta expose thick sand beds and gravel. The deposits consist of smooth sub-rounded to rounded pebbles of quartzite, granite, some diorite and slate. Several quartzite

boulders having a diameter of 1.2 m occur in the drift along the western edge. Meltwater drainage at the time of deposition was southward toward Clam Bay.

A smaller area of ice contact stratified drift is located at Lily Pond Lake. The kames here were formed as meltwater flowed off the edge of a retreating ice sheet. The deposits are generally thin, with bedrock being exposed in the borrow pits. The deposits range from thick massive and cemented sand beds to coarse sand and washed gravel.

**ESKERS**  
Eskers have formed at Lake Dam, Hurley Lake and Lake Charlotte. The longest esker runs discontinuously for approximately 3.2 km in a southerly direction from the southwest side of Hurley Lake,

across the granite barrens parallel to the present drainage. The material of the eskers is sorted and stratified sand and gravel with few boulders. It generally contains sub-rounded to rounded pebbles and cobbles of quartzite, slate, granite, siltstone, mafic and felsic volcanics.

**DIRECTION OF ICE MOVEMENT**  
Glacial striae and glacially-oriented features such as drumlins and eskers indicate that the ice sheet moved from north to south across the map area. A set of striae 0.4 km west of Lake Charlotte on the south side of the highway indicates a southward movement, while a second set on the slates east of Lake Charlotte trends 35°.

**GLACIO-LACUSTRINE DEPOSITS**  
Glacio-lacustrine deposits include

gravel, sand and silt, deposited in ponded glacial meltwater, 0.4 km east of Mooseland. The area has been excavated to a depth of 7.6 m, the gravel being used for road construction. The resulting borrow pits have filled with water leaving only the top 1.5 m of gravel exposed. These somewhat horizontal beds of gravel consist of sub-rounded to rounded pebble and cobble size rocks of quartzite, slate, brown siltstone, granite, mafic and felsic volcanics.