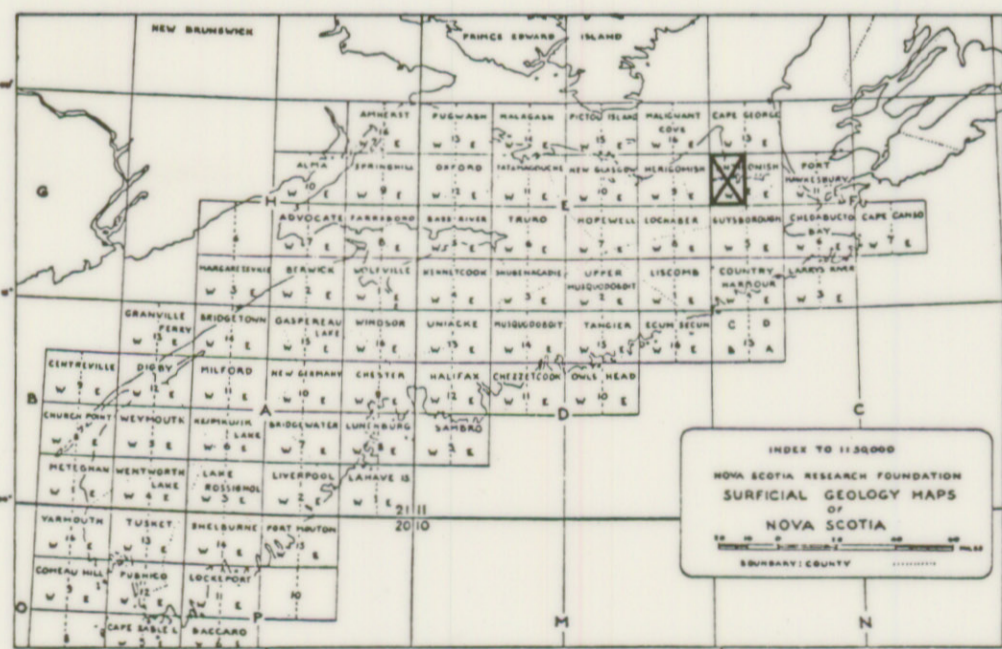


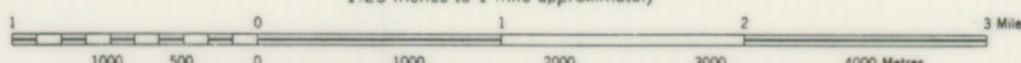


Geology by R.H. Mac Neill, 1956



ANTIGONISH IIF/12W SURFICIAL GEOLOGY

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



NOVA SCOTIA RESEARCH FOUNDATION
CORPORATION

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

DESCRIPTIVE NOTES

BEDROCK GEOLOGY

Rocks underlying the Pleistocene glacial deposits in the Antigonish area range from the Cambro-Ordovician Brown's Mountain Group to several varieties of igneous rocks of the Devonian age, and the thick Carboniferous rocks, including those of the Horton, Windsor, Canso and Pennsylvania ages. The range of hills from Lower North Grant to Cribban Point is covered with a thin till, bedrock being exposed in all the streams running out of these hills. Conglomerate and sandstone are exposed at Cribban Beach, limestone at Pomquet Harbour, granite south of Dunn Beach, and limestone at Meadow Green. The area to the south, comprising Croft, Beaulieu and Glassburn, is covered by a thin layer of till. Sandstone

outcrops at Glassburn and continues through Beaulieu and Croft. Shales appear at Lower Springfield.

The area adjoining Harbour Road, Williams Point, South Side Harbour, and extending to Pomquet Harbour is underlain by gneiss and is characterized by a karst topography. The north end of the Town of Antigonish (Hospital area) is underlain by severely weathered sandstone bedrock. Along Crystal Cliffs are A₂ limestones which are exposed to MacIsaac Point where the A₁ limestones appear. At Cribban Point sandstones are exposed at the shorelines, and just west of Crystal Cliffs there are granite exposures along the Crystal Cliffs.

QUATERNARY GEOLOGY

Much of the lowland area is covered with

glacial drift 40 to 100 ft. thick, but on the uplands the drift cover is thin and in places entirely missing. In the area from George's Bay south to Meadow Green the drift is so thick that the underlying rock is rarely seen except in artificial excavation.

Drumlins and Till

The Antigonish West map sheet (IIF/12W) contains a number of poor-to-well shaped drumlins and the orientation of these indicates a northeast to southwest movement of ice. The drumlins along the coast at Monk's Beach are all truncated and have a reddish brown clay matrix becoming more sandy toward Pomquet Harbour. The till is hard-packed and consists mostly of pebbles and cobbles of sandstone with sandy-clay matrix.

There are several drumlins in the Pomquet Harbour area whose orientation indicates a northeast-to-southwest movement of ice. Under a 2 foot overburden lies a 7 inch layer of hard-packed grey-to-white sand underlain by reddish-brown clay. Sandstones are present in all three layers. The west side of the Harbour is characterized by boulders of sandstone up to 8 feet by 10 feet.

The drumlins in the St. Andrews area are composed of glacial debris, reddish-brown to brownish-red in color, and composed chiefly of sandstones and felsic volcanics with a sandy and/or silty matrix.

The drumlins in the Beech Hill area are large and rather flat on top and consist of a reddish-brown clay matrix, surrounding predominantly sandstone and metamorphic rock fragments.

In the Marydale area the topography is influenced by the underlying bedrock, a shale which crops out quite frequently.

The small drumlins in the Crystal Cliff area are brownish-red with a silty, clay matrix and containing sandstones and metamorphics, mostly from the Brown's Mountain Group.

Glacifluvials

A discontinuous esker, flanked by kames, is to be found near Dunmore where it forms part of the highway. It lies on the valley floor and parallels the present drainage.

The kames north of the Town of Antigonish and west of Antigonish Harbour indicate a north-to-south flow of water. The kames in the Jintom area are chiefly of sand rather than gravel. Further to the west

of Jintom, on the road toward Fairmont, the kames consist of very poorly sorted sands and gravels. The kames at Lanark are well-sorted with the coarsest sediments to the north grading into the sands at the south-eastern end as seen in the borrow pit. The kames in the Lower South River area indicate a southward flow of water. In the Heatherton-Black Arm District the kames show a southward flow but the larger kame deltas indicate a more easterly flow of water. Occasional kames may be found in some other river valleys.

The West Pomquet River apparently was blocked by ice and a lake existed for some time covering the area from Glenroy northeast for two miles. The valley floor in this area is covered by fine sand.