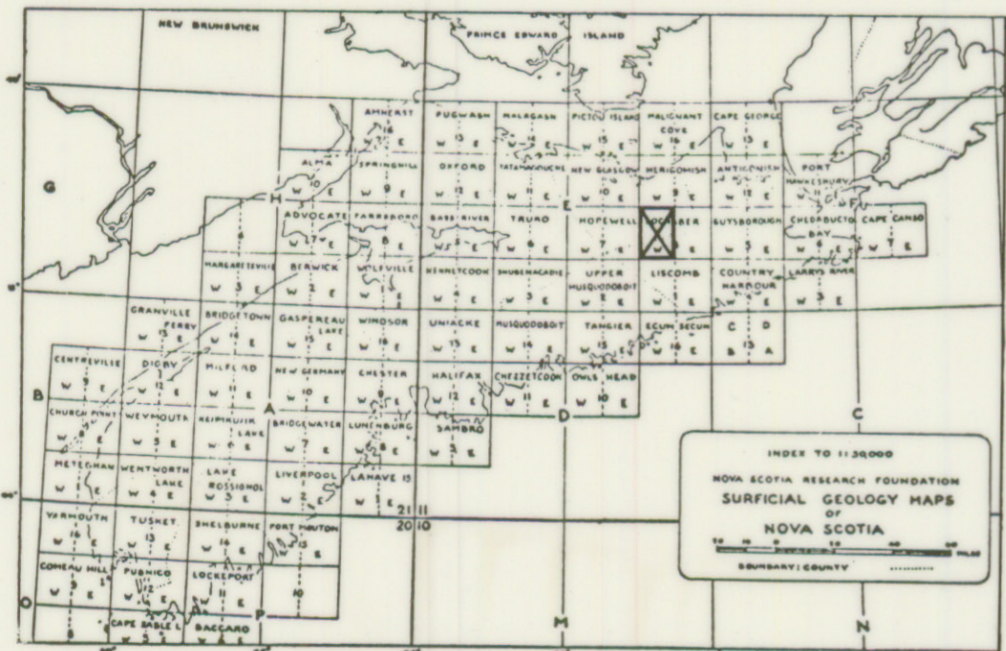


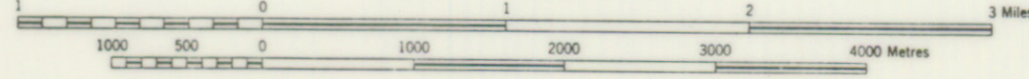
Geology by R.H. MacNeill, 1956



LOCHABER 11E/8W

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	
GLACIAL STRIAE	

DESCRIPTIVE NOTES

GENERAL

The West River St. Mary's divides the Guysborough County section of this map area into the Southern Upland and the Pictou-Antigonish Highland. Elevations range from 200 ft along the West River St. Mary's to over 500 ft north and south of this river. The West River St. Mary's and its tributaries drain this entire section of Guysborough County.

BEDROCK GEOLOGY

The area is underlain by rocks which are Ordovician, Devonian and Mississippian in age. The Goldenville Formation (greenish grey

quartzite) has been intensely folded and is well exposed in the streams flowing northward into the West River St. Mary's.

The Devonian granites at Chisholm Lake and Kelly Brook have intruded these Goldenville rocks. The area comprising the Pictou-Antigonish Highland is underlain by the Horton sandstones, siltstones and conglomerates of Mississippian age.

QUATERNARY GEOLOGY

Drumlins and Till

Bedrock controls the topography of the area and as a result of glacial scouring and deposition the terrain has been

smoothed. Till cover is generally 7-9 ft in thickness over the area but increases to 15 ft along the valley of the West River St. Mary's.

The northeastern section is barren as a result of fires in past years. It is generally covered by a light brown silty till derived from the soft Horton sediments.

The narrow flood plain of the West River St. Mary's is covered by till and small drumlins. The material ranges from a brown and reddish brown compact silty clay till to a greyish sandy silty matrix one along the southern side of the valley.

The Chisholm Lake area is rough and strewn with boulders of granite 3 to 8 ft in diameter.

Glaciofluvials

Several small kames are found at Caledonia along the edge of the higher elevations and into the valley. These kames have good form, contain washed greyish gravel, but are too small to be of any economic value.

A small area of ice contact stratified drift is located at Cameron Settlement. An esker and several kames with their southern ends fanning out are located on the south side of the West River St. Mary's. The material in these kames is stratified brown sand containing silt and perhaps some clay lenses and medium coarse gravel. The stratification and the considerable granite in the drift as compared to the surrounding

tills suggests a northward flow of water into the valley.

The esker does not coincide with the general direction of ice movement, but runs down into the valley and parallels the present drainage for approximately 1 1/2 miles. The direction suggests that meltwater flowed in sub-glacial streams as the ice tongue retreated up the valley. The esker is composed of fine gravel with most of the rock material being under 2 inches.

A second esker is located 3/10 mi from the county line on the Crossbrook Road and runs in a northeast-southwest direction. A section of this esker has been removed for road construction material, exposing stratified beds of sand and fine gravel.