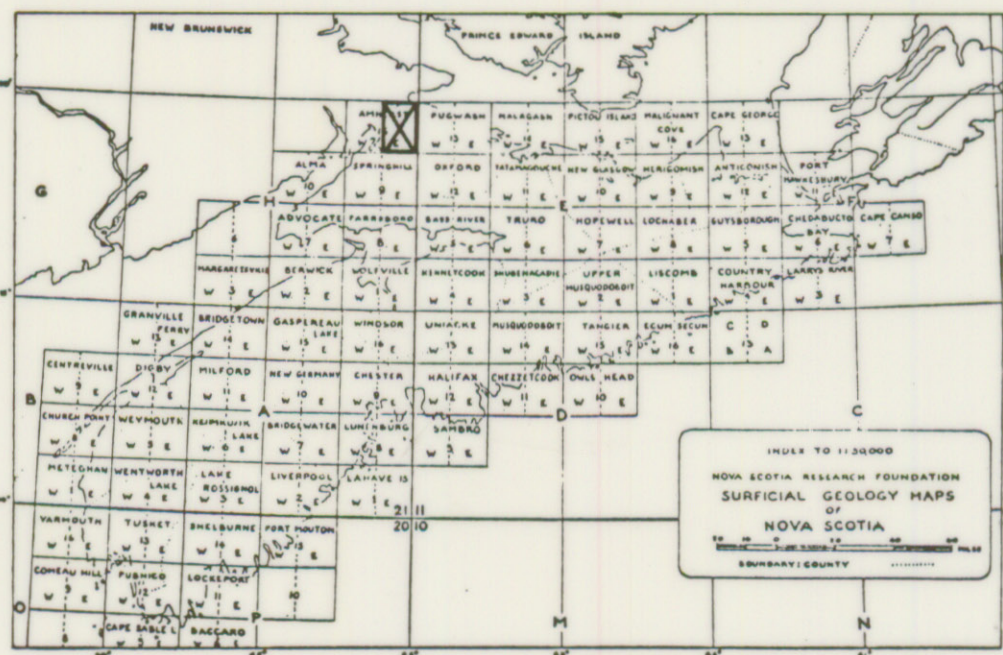


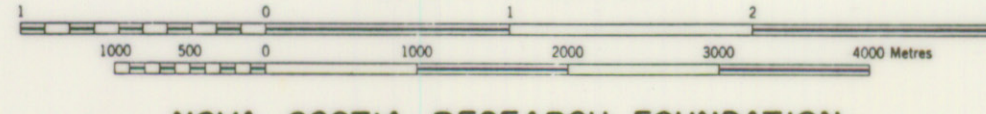
Geology by R.H. MacNeill, 1956



AMHERST 21H/16E

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
Elevations in the Amherst East map area range from sea-level, at Tidalish on Northumberland Strait and the lower reaches of Nappan River, to slightly over 600' south of West Leicester in the extreme southwest corner of the area. The land surface has a relatively gentle and uninterrupted rise from north to south.

The Chignecto Isthmus occupies a northeast-trending strip of terrain, generally less than 50' in elevation, in the northwest part of the area. This isthmus was probably a seaway, connecting Northumberland Strait and Cumberland Basin. A study of excavations near Sackville, New Brunswick and drill records supplied by the Maritime

Marshland Reclamation Association confirmed the western end of the seaway. Up to 80' of Quaternary sediments were encountered in the drilling with a typical section from surface to bedrock being: marsh-mud, forest-layer, marsh-mud, forest-layer, sand, red mud and till.

BEDROCK
The area is underlain by sedimentary rocks of the Windsor and Canoe Groups of Mississippian age, and the Riverdale, Cumberland, and Pictou Groups of Pennsylvanian age. Minor rocks including limestone, gypsiferous shale, sandstone, and conglomerate, and limestone underlie about 2 per cent of the area. Riverdale, Cumberland, and Pictou rocks underlie about 5, 2 and 80 per cent respectively of the area and include conglomerate,

sandstone, shale, coal (minor in Riverdale) and limestone (minor in Cumberland and Pictou).

Pleistocene Geology
Drumlins and Till
There are few, if any, true drumlins in the area. Glacial ice smoothed the topography by rounding the hills and filling the preglacial valleys. Postglacial erosion has slightly modified this surface.

Till is generally thin on ridges but may attain greater depths in stream valleys and on the flanks of hills. On most of the ridges bedrock is encountered at a depth of less than 10'.

The till is light to dark brown in colour, with a clay to fine sand matrix (generally depending on the composition of the under-

lying bedrock) and containing locally derived sedimentary rock fragments. Composition varies from loose and friable in the sand till to massive and tough in the clay till.

Erratic pebbles and the occasional cobble, including plagioclase, quartz, quartzite, gabbro, felsic and mafic volcanic rocks, and vari-coloured porphyries constitute less than 10 per cent of the rock fragments. These erratics probably were derived from the New Brunswick Highlands.

Glacioluvials
There are two small areas of ice-contact stratified drift. The first locality is one and one-half miles southeast of Nappan Station where the topography is suggestive of a recessional moraine area. The ice did not remain stationary for any

extended time as the material in the landforms is generally a heterogeneous mixture of fine sand to boulders that show slight water action. Boulders and blocks of grey sandstone cover the land surface and was seen outcropping under one of the mounds. These observations suggest that the material, for the most part, is of local provenance.

The second locality of ice-contact stratified drift is one-half to three-quarters of a mile southeast of Upper Nappan. This material may be related to that of the Nappan Station area but is a delta or series of deltas on the south side of the Nappan River valley. The material ranges from silt to sand to boulders and was derived from the local, underlying red sandstone. Delta gravel was noted in a pit adjacent to the Nappan River but the high water table would hamper excavation.