This document was produced by scanning the original publication.

Ce document est le produit d'une numérisation par balayage de la publication originale.

Eug. Poitevin

CANADA

DEPARTMENT OF MINES AND TECHNICAL SURVEYS

GEOLOGICAL SURVEY OF CANADA

PAPER 53-32

PRELIMINARY MAP

MILLVILLE

YORK AND CARLETON COUNTIES

NEW BRUNSWICK

By

F. D. Anderson

OTTAWA

1954

Price, 25 cents

CANADA
DEPARTMENT OF MINES AND TECHNICAL SURVEYS

GEOLOGICAL SURVEY OF CANADA
Paper 53-32

Preliminary Map
MILLVILLE
YORK AND CARLETON COUNTIES
NEW BRUNSWICK

(Descriptive Notes)

By
F. D.. Anderson

OTTAWA
1953

Price, 25 cents

DESCRIPTIVE NOTES FOR MILLVILLE MAP, NEW BRUNSWICK

The southern part of the area is gently rolling, in places almost flat, broken by the occasional steep-sided ridge. The average elevation is 700 feet; local relief is about 200 feet. The northern part of the area is rugged, with many high, steep-sided ridges and hills. Elevations exceed 1,400 feet and the local relief is commonly more than 400 feet. The ridges and valleys conform to the nature of the underlying bedrock, but have been modified by glaciation.

Drainage throughout the area is poor. Stillwaters and waterfalls dot the courses of many of the streams. Swamps and lakes are numerous, particularly in the northeast part of the area.

The oldest rocks in the area are pre-Silurian beds (1) and their metamorphosed equivalents (1a).

The unmetamorphosed rocks (1) consist largely of grey-green greywacke, slate, and argillite. The greywacke is composed of angular to subrounded particles of quartz, feldspar, and rock fragments in a silty matrix. The fragments form up to 75 per cent of the rock, and range in size up to 1.3 mm. Slate and argillite are interbedded with the greywacke. On Maple Ridge, southwest of Millville, dark grey carbonaceous slates occur in a belt, and are not found elsewhere in the area. These beds are fractured in a manner that has obscured the bedding. Limestone was noted near Central Waterville and also at Norton Dale, but is of minor importance.

The metamorphosed pre-Silurian rocks (1a) are widespread, but quantitatively are of minor importance. They commonly comprise biotite gneiss and micaceous schist along the borders of, or as zenoliths in, the large masses of granite that intrude the pre-Silurian strata. One and a half miles to the northwest of Millville is a small area underlain by a fine-grained, light grey rock, composed largely of quartz. The origin of this rock is uncertain, but it is believed to be pre-Silurian in age, and is included with the metamorphosed equivalents of that group (1a).

Porphyritic and amygdaloidal andesites and basalts (2) are exposed over much of the north-central part of the area. They are dark green, fine-grained rocks; where amygdaloidal (2a), the amygdules are of calcite and vary in size up to 1 cm. in diameter; where porphyritic (2b), the phenocrysts are calcic plagioclase and range up to 0.5 cm. in length. The relationship of these rocks to others in the area is not known.

Large bodies of diorite, quartz diorite, and gabbro (3) occur in the northern part of the area. These vary considerably in

appearance and in composition, but in general are a green, medium- to coarse-grained rock, composed of altered feldspars, amphiboles, and pyroxenes, with minor chlorite, magnetite, and occasional quartz. They are commonly porphyritic, with phenocrysts of calcic plagioclase up to 1.5 cm. in length.

Granite, granodiorite, and syenite (4) are the most extensively exposed of the intrusive rocks of the area. They are medium- to coarse-grained rocks, vary in colour from pink to light grey, and are commonly porphyritic, in which case the phenocrysts are either orthoclase or calcic plagioclase and may be 2 1/2 inches long. In general the rocks are composed of potassic and calcic feldspar, quartz, biotite, hornblende, and minor magnetite, and chlorite. Near contacts with sedimentary rocks, cordierite may comprise up to 5 per cent of the intrusive rock.

Sills and dykes of diabase (5) intrude the pre-Carboniferous rocks. They are dark green, ophitic textured, medium-grained rocks, composed largely of andesine, a pyroxene, magnetite, and, commonly, minor pyrite. The dykes and sills vary in width from 5 to 50 feet.

Arkose of recomposed granite (6) is found in the flanks of the granite areas. It is a loosely cemented rock, strongly resembles a soft granite, and is composed of an aggregate of quartz, feldspar, and mica. The feldspar is partly decomposed.

Coarse clastic sediments (7), probably Mississippian in age, lie unconformably on the older rocks in the extreme north-central part of the area. They are mainly brick-red and chocolate-coloured sandstones and shales, with minor conglomerates. The latter contains well-rounded pebbles up to 8 inches in diameter, which are representative of practically all underlying rock types.

The strike of the rocks in the area varies considerably. In the northwestern part the strike is generally to the southeast, whereas in the eastern part the rocks trend to the northeast. Lineaments in the topography have suggested the presence of large scale faults traversing the area, in particular to the northeast of Ayers Lake.

Limestone in the vicinity of Central Waterville has been quarried in past years. The limestone, which is exceptionally pure, was crushed and used locally as fertilizer.