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CANADA

DEPARTMENT OF MINES AND TECHNICAL SURVEYS

GEOLOGICAL SURVEY OF CANADA

PAPER 53-33

PRELIMINARY MAP

WOODSTOCK

CARLETON COUNTY

NEW BRUNSWICK

By

F. D. Anderson

OTTAWA

1954

Price, 25 cents

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Preliminary Map
WOODSTOCK
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NEW BRUNSWICK
(Descriptive Notes)

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DESCRIPTIVE NOTES FOR WOODSTOCK MAP, NEW BRUNSWICK

The topography of the area is diversified and reflects the nature of the underlying bedrock. Much of the area to the west of St. John River is underlain by relatively soft strata, and is gently rolling farmland with an average elevation of about 300 feet and a well-developed drainage system. The streams are in a stage of late youth or early maturity. East of St. John River rugged, heavily wooded hills dominate the landscape, and are underlain by highly resistant sedimentary and intrusive rocks. Elevations of 700 feet are common and local relief often exceeds 200 feet. Drainage is poor and numerous swamps and waterfalls dot the courses of many streams.

The area is covered with a mantle of drift, and till soils comprise up to 85 per cent of the cover¹. Exposures are relatively rare in the interstream areas.

The oldest rocks exposed in the area are pre-Silurian strata (1) and their metamorphosed equivalents (1a). The unmetamorphosed beds (1) comprise grey-green greywacke; grey-green, grey, and purple slates and argillites; and minor limestone and grit. The greywackes are medium grained to fine grained and contain angular to subrounded particles of quartz, feldspar, and rock fragments, in a silty matrix. The quartz particles form from 25 to 75 per cent of the rock and range up to 1.3 mm. in size. All the rock types are in well-defined beds that vary from a fraction of an inch to 20 feet thick.

The metamorphosed rocks (1a) are widely distributed, but are relatively minor in extent. At or near the contacts of large intrusive bodies they comprise biotite gneiss and micaceous schist. Near the mouth of Acker Brook, slates and argillites are altered to green chloritic schists. East of Oak Mountain the rock is dark grey-green, gneissoid and rudely banded with porphyroblasts of calcic plagioclase and pyroxene in a fine- to medium-grained matrix composed largely of euhedral plagioclase, pyroxene, and quartz.

The Silurian rocks (2-4) are largely slates of various colours and compositions and have been divided into three groups, mainly on the basis of lithology that has little stratigraphic significance. Map-unit (2) overlies pre-Silurian beds and is characterized by grey-green slates, sandstones, and greywacke, with minor interbeds of limestone, grit, and conglomerate. Bedding is commonly well defined and the beds range from a fraction of an inch to several feet thick.

Map-unit (3) is composed mainly of grey-green, grey, green, and red slates, with which are interbedded minor grey-green sandstone, greywacke, and, rarely, limestone. Lenticular bodies

of sedimentary, manganiferous hematite, and manganiferous slate, are found within rocks of this map-unit, the largest and most important of which are on Iron Ore and Moody Hills, 2 miles to the west and northwest of Jacksonville.

Silurian beds of map-unit (4) occur in the northwest part of the area, and are in contact with those of (3). They comprise dark grey, contorted, calcareous slates interbedded with buff weathering, grey-green sandstone, slate, and greywacke. The calcareous slates are commonly cut by quartz-calcite veins.

Porphyritic and amygdaloidal andesite and basalt (5) is exposed in the south-central part of the area near Oak Mountain. These rocks are dark green, fine grained, and sometimes pillowed; the amygdules are calcite filled and the phenocrysts are calcic plagioclase up to 0.5 mm. long.

Bodies of diorite, quartz diorite, and gabbro (6) intrude pre-Silurian beds, and are green, medium- to coarse-grained rocks, composed of highly altered plagioclase feldspars, amphiboles, and pyroxenes, with minor amounts of chlorite, magnetite, and quartz.

Granite, granodiorite, and syenite (7) cut pre-Silurian strata in the southeast part of the area. The rocks are medium grained to coarse grained, varying in colour from light grey to pink. Phenocrysts of feldspar up to 2 inches long are common. Generally, the rock is composed of quartz, potassic and calcic feldspars, biotite, hornblende, magnetite, and, near the contacts, cordierite.

Diabase (8) occurs as sills in the pre-Silurian and Silurian strata, and as dykes cutting the granite. It is a massive, dark green rock, fine grained to medium grained, with a distinct ophitic texture. The diabase is composed mainly of andesine, pyroxene (commonly pigeonite), and magnetite.

Coarse, clastic, sedimentary beds (9), of Carboniferous and probably Mississippian age, lie unconformably on older rocks in the northeast part of the area. They are chocolate and red conglomerates, with minor amounts of brick-red sandstone. The pebbles of the conglomerate are of rock types common to the Silurian and pre-Silurian formations, and of igneous rock types found in the area. They are well rounded and vary from 1/4 inch to 8 inches in diameter.

The pre-Silurian and Silurian strata are steeply folded and contorted and strike generally to the northeast. The dips of the pre-Silurian beds are nearly vertical; those of the Silurian strata are relatively lower and to the northwest. The Carboniferous beds are gently folded or are flat lying.

Copper, lead, and zinc sulphides were noted in the vicinity of a large intrusive mass of granite along St. John River about 3 miles south of the town of Woodstock. At the Bull Creek and Cobbler Sexton properties shafts were sunk in an attempt to exploit the copper minerals found at these localities. A shaft was also sunk on the Dominion No. 1 property to determine the possibilities of mining the lead and zinc minerals located there.

Silver was reportedly mined 3 miles north of Upper Woodstock along highway No. 2, during the latter part of the nineteenth century. Gold has been reported from the vicinity of Oak Mountain.

Mining of iron ore located about 2 miles to the northwest of Jacksonville was carried out intermittently from 1848 to 1884; during this time about 70,000 tons of ore were extracted and treated in smelters located at Upper Woodstock².

¹Stoobe, P. C., and Aalund, H.: Soil Survey of the Woodstock Area, N.B.; Canada, Department of Agriculture, Tech. Bull. 48, Pub. 747, March 1944.

²Lindeman, E., and Bolton, L. L.: Mines Branch, Department of Mines, Canada, No. 217, vol. II, 1917.