

The schists vary much, even in small exposures, and are intimately associated with the diabase and altered porphyries, the one grading into the other without any sharp dividing line. Under the microscope these rocks are seen to have undergone much alteration. In the diabase the augite is often largely replaced by hornblende, and the feldspars are charged with much secondary material. The chlorite schists are frequently considerably decomposed, and in many of the hornblende schists the hornblende is secondary in appearance, while many of the thin sections show that the rocks have been sheared and crushed.

In a general way these schists strike east and west, and are either vertical or dip at a high angle. They contain large quantities of pyrite, either in cubic crystals or disseminated specks. Carbonate of lime is also present in most of them, often filling thread like fissures.

As the country is entirely wooded and difficult to traverse there was not sufficient time to separate the different types so as to represent them on the accompanying map. Lithologically they seem to correspond with the rocks of the Keewatin system, and they have been provisionally so coloured. The Keewatin rocks occupy most of the area from the western border of the sheet to the Bell river, and east of the latter on the south railway line. They are also found on both sides of the Assup river a short distance from its mouth, and on the Migiskan river below the mouth of the Atik.

Laurentian.

Elsewhere in the eastern part of the district the rocks are Laurentian gneiss or gneissoid granite, striking from northeast to southwest, in the majority of places observed varying less than 20° from east and west. In some places the granite rises in hills 400 or 500 feet above the general level, and gives the country a rugged and broken appearance. Owing to the clay covering the contact between the schists and gneiss was not seen, and the relations could not be worked out; but there seems to be an area of some miles where occasional outcrops of first one and then the other appear, the intervening distances being covered with clay. Only an approximate line of separation can, therefore, be drawn.

The gneisses and granites were traced for over seventy miles east in a straight line, and, from other explorations, they are known