

The next exposure occurs on the river at the end of the ten-mile portage, and consists of buff and red gneisses. These buff rocks are a decomposition-product of the red, the feldspar being dissolved out, leaving a friable sandstone, consisting of quartz and magnetic grains, these being probably the source of the beds of iron-sands found along the river and coast.

Similar exposures were seen at intervals along the shores of Lake Natuakimin.

Three miles up the river beyond this lake, and fifty-eight miles from the first fall, occurs an outcrop of pink crystalline limestone, coarsely granular in structure, and containing crystals of mica and sphene.

A short distance beyond is a dark grey stratified dioritic rock, composed chiefly of quartz hornblende and triclinic feldspar, and just beyond pink crystalline limestone again occurs, and here holds crystals of a bluish-grey plagioclase.

No exposures now occur on the river for thirteen miles, to where the stream turns eastward and breaks through the Labradorite hills for six miles to Lake Pimpuakin. The first rock here seen was a bluish-grey massive plagioclase feldspar, containing large crystals of the same mineral. This is followed by a dark bluish-black feldspar rock, with hornblende. Half a mile beyond, a gneiss, made up of plagioclase quartz and mica, occurs, and is followed by coarse-grained dark plagioclase rock, weathering grey, and containing grains of magnetic iron ore.

One mile from Lake Pimpuakin was seen a dark grey triclinic feldspar rock, weathering to a light yellow. Dip S. 70° E. $< 70^{\circ}$. At this point a conspicuous fault occurs on the south side of the river; the hill is broken through its centre, and the east side has subsided fully thirty feet.

The above rocks are probably part of the area of plagioclase rock traced by Mr. F. Adams to the north and east of Lake St. John. They continue about three miles along the north-west shore of Lake Pimpuakin, where they give place to a coarse-grained red gneiss, and just beyond a dark grey orthoclase gneiss. The contact between the plagioclase rocks and the orthoclase gneisses was not seen, being covered with drift.

One mile beyond the last exposure is a light grey quartzite, containing considerable quantities of black mica, with a strike of N. 10° W. This is followed in two miles by dark grey fine-grained gneiss, composed chiefly of quartz and black hornblende, with orthoclase. Dip N. 40° E. $< 75^{\circ}$. At the entrance of the north-west bay was seen red and grey gneiss, changing in colour with the different proportions of quartz, hornblende and orthoclase. Similar exposures occur on the small islands in the bay and at the mouth of the Pimpuakin River.