

iron, and various ores of copper, especially chalcocite, bornite, and chalcopyrite are of frequent occurrence.

The examination of four thin sections under the microscope suffices to show that the rock is of volcanic origin, and hence is a true amygdaloid instead of an argillite. Although it is much altered, crystals of primary plagioclase can be distinguished in it with certainty. In arrangement they suggest the structure of diabase, but as the interstitial material is wholly secondary, chlorite, iron ore, leucoxene, &c., further evidence is needed to determine its precise original character. This was probably variable, as fibrous hornblende occurs in some quantity at a point about three miles west of the St. Francis river. Also near the same place the rock contains nodular masses three or four inches in diameter, which are composed chiefly of concentric layers of quartz and epidote.

The copper ores, as far as seen, occur in connection with either calcite or quartz, in which cases the latter minerals do not appear to form veins having either uniform width or well defined edges, although they frequently do so in other cases when the veins are much smaller in size. The copper-bearing masses of calcite and quartz, however, seem rather to occupy crevices and fissures, such as might have been produced by the intense dynamic metamorphism by which the entire region has been greatly disturbed, and as the copper, from its position, must have been deposited contemporaneously with these gangue materials, it must like them be regarded as of secondary nature, probably deposited by infiltration.

In its mode of occurrence this rock seems to conform to the stratification of the region, and shares in the foliation which the adjacent rocks have suffered. It lies in the pre-Cambrian, as recently divided by Dr. Ells (Annual Report Geological Survey of Canada, Vol. VII, N. S., Part J, 1894), appearing, wherever it has been observed, between the Cambrian on the northwest and pre-Cambrian strata, generally dolomite or quartzite, on the southeast.

As it has resisted denudation better than most of the associated rocks, it usually forms a rather conspicuous feature of the landscape. The width varies from one to two miles, and the extent along the strike has not been ascertained.