of the two, so the evidence of age relations between syenite and anorthosite must be sought from those masses of the syenite which adjoin anorthosite. The only two such masses in the northern Adirondacks, aside from the small anorthosite outlier in Litchfield park, Franklin county, are the Tupper lake and Saranac river syenites. Each of these has furnished some evidence.

A long cut on the Saranac branch of the New York Central and Hudson River Railroad near Colby pond exposes an apparent dike of a gabbroic-looking rock some 30 feet in width, in the midst of the anorthosite gabbro of the cut. The dike shows a heavy blackish rock, darker colored and finer grained than the anorthosite gabbro. The thin section shows that its affiliations are with the syenites, and that it is quite like the gabbroic phase of the Diana syenite. It holds some 35% to 40% of minerals other than feldspar, these being augite, hypersthene, hornblende, biotite, garnet, magnetite and quartz (with small amounts of zircon, apatite, titanite and pyrite). The feldspar is entirely of intergrowth types, fine microperthitic or micrographic intergrowths of orthoclase and albite (or oligoclase). Quartz makes some 5% of the rock. The nature of the feldspar makes reference of the rock to gabbro impossible, yet it looks exceedingly like the ordinary dark gabbros of the region and is very difficult to tell from them in the field.

The west wall of the dike is well shown and is sharp, so that there seems no doubt that it actually is a dike. The igneous nature of the rock is beyond question.

Since the anorthosites grade at times at their borders into gabbroic gneisses which positively can not be distinguished from these gabbroid syenites in the field, it is evident that boundary mapping is attended with considerable hazard in districts where the two rocks adjoin and both show this differentiation.

A similar dike, 8 feet wide, is found cutting anorthosite in a railroad cut 3¼ miles west of Saranac Inn station. The main difference between the two rocks is that in this dike the feldspar, instead of consisting entirely of intergrowth types, as in the previous case, shows quite a considerable percentage of andesin, though the microperthite largely predominates. The rock is by no means so distinctly a syenite as in the previous case, but is rather an intermediate rock.