

No. 117.—Taken from Big Watchman Mine.

“ . . . . A rock which has the appearance of being a volcanic agglomerate or breccia containing considerable lime.”

Hand specimen is a fine-grained greyish rock, showing a few stains of green carbonate of copper on the joint planes.

Under the microscope, the rock is seen to be composed of a fine-grained groundmass of plagioclase felspar, in which are imbedded large porphyritic crystals of felspar twinned according to Albite and Carlsbad laws, some untwinned individuals and some microperthitic intergrowths of albite and orthoclase. There are also some forms which are now entirely filled with magnetite and chlorite, but which, from the shape, once belonged to some ferromagnesian constituent, in all probability hornblende. There are areas in the section which consist of angular and subangular fragments, giving to it a brecciated appearance and which once evidently belonged to some closely related volcanic rock caught up by this one while it was in a molten condition.

The rock is an altered andesite, which in some parts of the mass probably passes into an andesitic tuff or breccia.

No. 120.—From Big Sioax Mine, Aspen Grove.

“The country rock appears to have been of igneous origin and is somewhat similar to that of the rest of the camp; but at this point it has been considerably altered and now approaches serpentine.”

The hand specimen shows a massive fine-grained greenish-coloured rock, having green carbonate of copper stains in the cracks and on the weathered surfaces.

Under the microscope, the rock is seen to be very much altered and to consist of a groundmass and phenocrysts. The former makes up a very small proportion of the rock and consists of small plagioclase crystals. The phenocrysts consist of felspar, in large laths, showing twinning according to both the Albite and Carlsbad laws, some individuals having these two combined, thus allowing of the determination of their composition by Michel Lévy's admirable method.\* By this it was found such individuals

\* See Becker, G. F., on the Determination of Plagioclase Felspars in Rock Sections. Amer. Jour. of Sc., May, 1898.