

a. The matrix (specimen 32) is analcite in icosite- usually beauti- broken. Some are colorless by water etching, dull dodecahedral probably a rather colorless was derived, rock fragments

sh red pheno- crystals distributed in the matrix and matrix by a light pink and occasional

in the hand specimen, general only with

sed of pheno- crystals consisting of analcite, nephelite, and feldspar in an un- altered analcite, are the only

pink, homo- geneously developed, average cracks. The phenocrysts, 3. Alteration consists of a replace- ment of cleavage by the whole

The second generation of analcites are much smaller, and rarely exceed 0.3 mm. in diameter. They are yellowish or pinkish, and idiomorphic as a rule, in eight sided or rounded sections, but the edges are not always sharp.

Ægirite-augite occurs sparingly as tabular idiomorphic individuals up to 0.75 mm. long. Some sections exhibit zonal banding and ægirite rims are occasionally found. The ægirite-augite is usually quite fresh.

Nephelite is found in rectangular individuals up to 0.5 mm. long, and is also quite unaltered.

A fresh, clear feldspar with a very small axial angle occurs very rarely, and is thought to be sanidine. Carlsbad twins, up to 0.5 mm. long, have been seen.

Melanite is rare in occurrence, and is of the usual type seen so frequently in these rocks.

There were three rather distinct periods of crystallization during the solidification of this blairmorite. The large analcites grew first to their unusual size on account of the great excess of this material in the magma, and are of intratelluric origin. The second generation of phenocrysts then formed, probably rather rapidly and more or less simultaneously, although relative perfection of outline hints that ægirite-augite, melanite, sanidine, analcite, and nephelite may have been the order. The third crystallization stage was the forming of the matrix, which is only incipiently crystalline.

This blairmorite is remarkable for the large percentage of primary analcite it contains. The size of the larger phenocrysts allowed a measurement of the relative amounts of analcite of the first generation and the groundmass to be made without difficulty. It was found by determinations on several specimens that the surface areas of the larger phenocrysts and matrix were almost exactly equal, so it was concluded that the volume relations were in the same proportion. The matrix, on measurement by the Rosiwal method, was found to contain 50 per cent of recognizable analcite by volume¹. This gave

¹The precision of the determination of the proportion of the larger phenocrysts is about 1 per cent; that of the analcite in the matrix probably between 1 and 2 per cent.