

phenocrysts, and its manner of occurrence in several types of rocks leaves no reason to doubt its primary origin.

Titanite is a constantly occurring mineral of the trachyte. In fresh, twinned diamond-shaped and rectangular sections it is a millimetre long.

In one fragment a few small phenocrysts of colourless andesine were noted. The groundmass of these rocks nearly always has a highly developed flow structure, sometimes in complicated whorls, more often in parallel and sub-parallel arrangements of the minerals. Sometimes the matrix is only partially or minutely crystallized. No wholly glassy groundmass was noted. A second generation of orthoclase laths is the dominant mineral with more or less aggrite-augite, often altered to chlorite, and occasional magnetite.

Many trachyte fragments seen only in thin section, contain no phenocrysts, and may or may not represent non-porphyrized varieties. They exhibit several varieties of fine-grained structures. As no large fragments of non-porphyrized rocks have been discovered, it is probable that these pieces are from the matrix of a porphyry.

Latite.

This rock (field number 25) is represented by a hand specimen enclosing a portion of a rounded fragment about the size of a man's fist, in a green, tufaceous matrix. It contains prominent tabular feldspar phenocrysts, occasionally up to an inch long, averaging about $\frac{1}{4}$ of an inch, forming about 40 per cent of the rock, in a dull green matrix containing small black melanite phenocrysts.

Under the microscope the phenocrysts are seen to be orthoclase and andesine, with smaller titanite and melanite, in a very fine-grained groundmass.

The orthoclase phenocrysts vary from 3 to 10 mm. in size in section, and are considerably altered. The andesine phenocrysts are up to 3 mm. in size, also altered, and show albite twinning with narrow lamellae, as well as Carlsbad twins. Extinction measurements indicate a value of $Ab_{65}An_{35}$ for this andesine. Melanite and titanite occur sparingly, the former up to 1 mm. in size, the latter up to 0.3 mm.