

3. **PULASKITE.**—The third class of these eruptive rocks differs from Pulaskite. nordmarkite principally in having hornblende as the characteristic bisilicate instead of augite, and in its structure, which though holocrystalline, is of a porphyritic trachytic character. It is rather variable in appearance, but is usually of a gray colour and fine texture, being too fine to admit of mechanical separation of the mineral constituents. It is often coated with a dark, almost black, oxide of iron which tends to obscure these features. Small crystals of black hornblende can be occasionally detected in the finer feldspathic groundmass, and coarse nodular masses, from six inches in diameter downwards, are commonly seen. Some of these are darker than the enclosing rock, while others are considerably lighter. In the marginal portions of this rock and in the numerous dykes which it sends off into the adjacent rocks it is more distinctly porphyritic. The groundmass in such cases assumes a dull greenish shade, due evidently to the increased proportions of the ferro-magnesian minerals, and small feldspar phenocrysts are plainly seen in it. Crystallization variable.

A few specimens nearer the central portions of the mass show fine greenish specks which under the microscope are found to be aegerine-augite, while in others an occasional blue spot of sodalite is apparent to the unaided eye.

By the aid of the microscope, this rock is found to consist of feldspar, hornblende, augite, biotite, magnetite, sphene, sodalite and apatite. Mineral constituents. The first four, only, are in essential amounts, and the feldspar is by far the most important of all except in the endomorphic contact zone.

The structure varies from coarsely trachytic in the central portion of the mass to porphyritic along the margin.

The phenocrysts include both orthoclase and plagioclase as well as hornblende and occasionally augite.

Of the feldspar phenocrysts, orthoclase is far the most abundant in the interior, while plagioclase largely predominates in the peripheral portions of the area and in the dykes. The increase of plagioclase at the expense of orthoclase in the phenocrysts seems to be analogous to that described by Cross* in the Game Ridge trachyte, the last member in the sequence of important eruptive rocks in the Rosita Hills. Game Ridge trachyte.

The feldspathic portion of the groundmass consists of short rather stout prisms packed together, often in parallel arrangement (fig. 5)

* 'Geology of Silver Cliff and Rosita Hills, Colorado.' Whitman Cross. 17th Annual Report U. S. G. S., 1895-6, p. 306.