

That the mineral is cordierite, in spite of its positive character is indicated by the following facts:

- (1) Typical golden-yellow halos surround included zircons;
- (2) Characteristic polysynthetic and cyclic twinning can be seen in many of the grains;
- (3) Alteration to pinite has proceeded in customary manner along irregular lines.

The material at hand has not lent itself to separation for a chemical analysis, but it is hoped to obtain later some specimens which will be suitable for this purpose, and to publish the results.

NOTE ON THE OCCURRENCE OF VIVIANITE
IN THE DISTRICT OF COLUMBIA

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During the excavations for the numerous governmental buildings along Constitution Avenue in the city of Washington, it was called to the attention of the writer that small masses of a blue powderlike mineral were being found embedded in the clay. Mr. Vincent Tilton of Washington first observed the mineral which was being taken from the site upon which now stands the building of the United States Department of Commerce. Later Dr. R. W. Brown of the United States Geological Survey submitted samples procured from the excavation upon which rests the new Archives Building.

On close examination the blue masses were found to be the ferrous phosphate, vivianite, which so far as is known, has not been recorded from the District of Columbia.

In form, the masses appear as small globular nodules, ranging in size from a millimeter to a centimeter; the larger being less numerous. Some of those obtained from the Commerce building site were elongated to above three centimeters and had a somewhat rootlike shape.

The structure of the vivianite ranges from a smooth powder in the smaller nodules to a very fine granular condition in those of greater size; and in color varies from medium blue to deep blue.

In occurrence the mineral is found embedded some twenty to thirty feet below the surface. It is associated with limonite dis-

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seminated in surficial deposits of sandy-clay; and with flecks of mica (muscovite) which has been derived from the weathering of the Piedmont schist and gneiss.

Vivianite in the surrounding regions has been reported from the northern part of Somerset and Worcester Counties in Maryland, where it was also found associated with limonite.

In Virginia, this mineral has been recorded from Stafford County occurring with bog iron ore; and at Falmouth (in the same county) has been found associated with gold and galena.

The excavations along Constitution Avenue where the District specimens were secured, follow the line of a canal which was covered over many years ago. Throughout this region, the rocks are the results of a reclaimed tide marsh, resting upon the Pleistocene loam and gravel of the latest Columbian terrace. It would seem that with the abundance of plants and other organic bodies which must have existed along the old canal, and the presence of iron and water in the soil of the reclaimed area, the remains of such organic bodies have been replaced by the ferrous phosphate.