

in Frederick county, where it occupies a considerable area near the northern border of the state in the vicinity of Emmitsburg. The chief cementing material in all of the igneous rocks is the hydrous oxide of iron.

The next group of road-building materials includes the marble, the limestone and the calcareous sandstones and shales. The carbonate of lime contained in these deposits acts as a valuable cement, but the materials have far less durability than the igneous rocks above described. They are found covering widely separated areas throughout the Piedmont Plateau and Appalachian Region, the most extensive and available deposits being found in the long, narrow valleys to the north of Baltimore city and in the Frederick and Hagerstown valleys farther west. These materials have already been considerably employed for road-building purposes.

The third group of road-building materials includes the gravels of the eastern and southern portions of the state, which belong to the late Mesozoic and Cenozoic formations. They cover extensive areas in Cecil, Kent, Queen Anne's, Talbot, Anne Arundel, Calvert, Prince George's and Charles counties, and with lessening importance extend into the more southern portions of the state. These gravels are rich in iron, which acts as the cementing material. They probably afford less permanent road metal than the igneous rocks which were first described, but when properly used are of great value in road construction.

Several of the other rocks, both in the Piedmont Plateau and the Appalachian Region, have been locally employed for road-building purposes, some of the schists and shales as well as some of the more quartzose rocks proving of value under certain conditions, but none of them have the valuable cementing qualities of the three groups of rocks above described.

THE MISCELLANEOUS PRODUCTS.

There are several other mineral substances of greater or less economic importance, which are either being worked to-day to some extent in Maryland or which have been earlier worked within the state, in