OXIDES

QUARTZ (SiO₂)

Quartz is the most widely distributed mineral in the world and occurs in many different varieties and under various conditions. It is an essential or an accessory mineral in practically every type of rock within the county.

The light-colored or acid gneisses contain grains of quartz associated with the feldspars and ferro-magnesian minerals; the dark-colored gneisses in places carry a small amount of quartz; all kinds of gneisses are cut by thin quartz veins and by pegmatites in which the quartz grains may be of considerable size; the Hardyston conglomerates, sandstones and quartzites are composed almost entirely of quartz, both the elastic particles and the cementing matter; all the limestones carry quartz grains and are cut by thin veins in which calcite and dolomite are most abundant but in which quartz is common; the Martinsburg shales contain small quartz grains and in many places have many veins of quartz or quartz and calcite; and the Triassic conglomerates consist of quartz pebbles in a matrix of shale; the shale contains many quartz grains.

Quartz crystals up to four inches in length with well developed crystal faces have been found in cavities in the fractured limestones and loose in the residual soils. In some of the fields north of Farmersville quartz crystals have been found in the surface soils in considerable number.

In that part of the Saucon Valley contained in Lehigh County some masses of ferruginous quartzite, probably from the Tomstown formation, have been found in which each grain has some crystal faces and some individual particles are perfect doubly-terminated crystals. They can readily be seen by means of a small hands lens. It is expected that at some time similar material may be found in the Northampton County portion of this valley.

Genth reports that "fine transparent crystals, some one and a half inches in length and half an inch thick, occur at Crystal Spring, on Blue Mountain, in Bushkill Township."

JASPER (SiO₂)

Yellow and red jasper are abundant in the Hardyston formation of the southeastern part of the county. The yellow variety is most common. Some of it is uniform in color, but most of it is mixed with clear quartz and in many cases stained with pyrobitite. The yellow variety grades from a bright golden yellow to a dark brown and the red from an orange to a brick color or to a deep carnelian red. Within the county no place is known where the jasper is in place. Instead