MINERAL OF THE MONTH

QUARTZ

Quartz is a common and widely-distributed mineral that occurs in a large number of geologic environments. Quartz is notable because of its great variability in shape, color, and size. In addition to rock crystal, common coarsely-crystalline varieties of quartz include amethyst, rose quartz, smoky quartz, citrine, and milky quartz. Microcrystalline and granular varieties include chalcedony, agate, onyx, flint, chert, and jasper.

Despite its many forms, quartz is easily identified by its glassy luster, conchoidal fracture, and prismatic crystal form. Hardness is also a useful criterion for identification, since quartz is able to scratch most other common minerals.

In Georgia, quartz occurs naturally throughout the state and in rocks of sedimentary, metamorphic, and igneous origin; it is the primary mineral in the sandstones and conglomerates of the Valley and Ridge and Coastal Plain provinces; it is the primary mineral in quartzites and is secondary in the schists and gneisses of the Piedmont and Blue Ridge provinces; it is also an important constituent of the granites as well. In our humid climate, quartz is remarkably durable and survives all but the most severe weathering processes. As a result, many of the rocks and much of the sand in our streams and rivers (not to mention the coastal beaches) are composed of quartz.

Most of the quartz samples in the tray this month were collected from localities across the southeastern US.

Technical Information:
Chemical Formula – SiO₂
Composition – Silicon dioxide
Crystal Form – Trigonal-trapezohedral; hexagonal system:

Images courtesy of the Florida Educational Technology Clearinghouse, Florida Department of Education

Hardness – 7 (Mohs scale)
Streak – Clear/White
Cleavage – Indistinct; fracture conchoidal
Mineral group – Tectosilicates