Sbacchiite

Crystal Data: Orthorhombic. Point Group: 2/m 2/m 2/m. As needle-like, steep bipyramidal crystals, elongated along [100] and truncated by {100}, to 60 μm.


Cell Data: Space Group: Pnma. a = 7.665(2) b = 6.993(1) c = 9.566(2) Z = 4

X-ray Powder Pattern: “Cotunnite pit”, eastern rim of Vesuvius, Naples, Italy. 3.499 (100), 3.563 (85), 2.899 (55), 2.255 (52), 3.840 (45), 2.173 (36), 2.750 (30)

Chemistry: (1) Ca 33.41 33.38 Mg 0.26 Al 10.97 11.24 F 54.67 55.38 Total 99.31 100.00

(1) “Cotunnite pit”, eastern rim of the crater of Vesuvius, Naples, Italy; average of 10 EDS analyses; corresponds to Ca$_2$AlF$_7$. (2) Ca$_2$AlF$_7$.

Occurrence: As a high-temperature encrustation formed by the extraction of aluminum and calcium from the underlying rocks by HF activity around a volcanic fumarole.

Association: Gearksutite, usovite, creedite, opal.

Distribution: At the “cotunnite pit”, eastern rim of the crater of Vesuvius, Naples, Italy.

Name: Honors Dr. Massimo Sbacchi (b. 1958), biologist and mineral collector, for his long-time field collaboration and continuous supply of interesting material for study.

Type Material: Reference collection, Department of Chemistry, University of Milan (2017-01) and the Museum of the Vesuvius Observatory, Naples (2018-01), Italy.