Scottyite $BaCu_2Si_2O_7$

Crystal Data: Orthorhombic. *Point Group*: 2/*m* 2/*m* 2/*m*. As blocky grains with striations parallel to [001], to 0.4 mm.

Physical Properties: *Cleavage*: Perfect on {100} and {010}. *Tenacity*: Brittle. *Fracture*: n.d. Hardness = 4-5 D(meas.) = 4.63(3) D(calc.) = 4.654

Optical Properties: Transparent. *Color*: Dark blue. *Streak*: Pale blue. *Luster*: Vitreous. *Optical Class*: Biaxial (–). $\alpha = 1.750(1)$ $\beta = 1.761(1)$ $\gamma = 1.765(1)$ 2V(meas.) = 66(2)° 2V(calc.) = 62° *Orientation*: $X \parallel a$, $Y \parallel b$, $Z \parallel c$. *Pleochroism*: X = medium blue, Y = dark blue, Z = medium blue. *Absorption*: $Y > X = Z$. *Dispersion*: None.

Cell Data: *Space Group*: *Pnma*. $a = 6.8556(2)$ $b = 13.1725(2)$ $c = 6.8901(1)$ $Z = 4$

X-ray Powder Pattern: Calculated pattern.
3.0406 (100), 3.0527 (64), 6.5862 (52), 2.7262 (52), 2.4299 (37), 3.9105 (22), 1.9552 (20)

Chemistry:

	(1)
CuO	36.98
BaO	35.12
SiO_2	27.01
SrO	0.28
Na_2O	0.06
Total	99.45

(1) Wessels mine, Kalahari Manganese Fields, South Africa; average of 8 electron microprobe analyses supplemented by Raman spectroscopy, $(NH_4)_2O$ calculated from stoichiometry; corresponds to $Ba_{1.00}Sr_{0.01}Na_{0.01}Cu_{2.04}Si_{1.97}O_7$.

Occurrence: Likely of hydrothermal origin in a metamorphosed manganese deposit.

Association: Wesselsite, pectolite, richterite, sugilite, lavinskyite.

Distribution: From the central-eastern ore body, Wessels mine, Kalahari Manganese Fields, Northern Cape Province, South Africa. Also reported from Eifel, Germany.

Name: Honors Michael M. Scott "Scotty", the co-founder and first CEO of Apple Computer Corporation (February 1977 to March 1981), and the founding sponsor of the RRUFF project - an internet-based, internally consistent, and integrated database of Raman spectra, X ray diffraction, and chemical data for minerals.

Type Material: Mineral Museum, University of Arizona, Tucson, Arizona, USA (19334) and the RRUFF Project (R120077).

References: (1) Yang, H., R.T. Downs, S.H. Evans, and W.W. Pinch (2013) Scottyite, the natural analog of synthetic $BaCu_2Si_2O_7$, a new mineral from the Wessels mine, Kalahari Manganese Fields, South Africa. Amer. Mineral., 98, 478-484.