Frankdicksonite BaF_2

Crystal Data: Cubic. *Point Group:* $4/m\bar{3}2/m$. Crystals, to 4 mm, are euhedral cubes.

Physical Properties: *Cleavage:* Perfect on {111}. Hardness = ∼2.5 VHN = 88–94, 90 average (100 g load). D(meas.) = 4.89(1) D(calc.) = 4.885 Strong blue cathodoluminescence.

Optical Properties: Transparent. *Color:* [Colorless.] *Luster:* Vitreous. *Optical Class:* Isotropic. $n = 1.475(1)$

Cell Data: *Space Group:* $Fm3m$. $a = 6.1964(2)$ $Z = 4$

X-ray Powder Pattern: Carlin mine, Nevada, USA.
3.581 (100), 2.191 (56), 1.870 (47), 3.099 (21), 1.422 (20), 1.266 (20), 1.047 (14)

Chemistry:

	(1)
Ca	0.00
Sr	0.24
Ba	77.98
F	21.41
Total	99.63

(1) Carlin mine, Nevada, USA; by electron microprobe, average of three analyses; corresponds to $Ba_{1.00}F_{2.00}$.

Occurrence: Of hydrothermal origin, encased in quartz veinlets cutting a gold deposit in silicified carbonaceous arsenic-rich limestone.

Association: Quartz.

Distribution: From the Carlin mine, 50 km northwest of Elko, Lynn district, Eureka Co., Nevada, USA.

Name: To honor Dr. Frank Wilson Dickson (1922–), Professor of Geochemistry, Stanford University, Palo Alto, California, USA, for his work on low-temperature ore deposits.

Type Material: National Museum of Natural History, Washington, D.C., USA, 133958.

References: (1) Radtke, A.S. and G.E. Brown (1974) Frankdicksonite, BaF_2, a new mineral from Nevada. Amer. Mineral., 59, 885–888.