Frankdicksonite BaF<sub>2</sub>

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

**Physical Properties:** Cleavage: Perfect on  $\{111\}$ . Hardness =  $\sim 2.5$  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  $\mathrm{Ba}_{1.00}\mathrm{F}_{2.00}$ .

**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.