

NEW MINERAL NAMES

Francevillite

GEORGES BRANCHE, MARIE-EDITH ROBERT, FRANCIS CHANTRET, BERNARD MORIGNAT, AND ROBERT POUGET, La francevillite, nouveau minéral uranifère. *Compt. rend.*, **245**, No. 1, p. 89-91 (1957).

Analyses of four samples gave UO_3 55.5, 54.9, 55.0, 55.4, V_2O_5 17.5, 17.6, 17.8, 17.5; BaO 9.8, 10.1, 10.2, 10.3; PbO 7.2, 7.5, 7.5, 7.4; H_2O 8.7, 8.7, 8.7, 8.7; sum 98.7, 98.8, 99.2, 99.3%; these after eliminating impurities amounting to about 0.2% of SiO_2 and Al_2O_3 and about 0.1% of Na_2O , MgO, and Fe_2O_3 . Spectrographic analysis showed K 400-600 p.p.m., Ca and Sn 200-400 p.p.m. Mo 100-200 p.p.m. Ti, Mn, and Cu about 50 p.p.m. The analyses correspond to $(\text{Ba}, \text{Pb})(\text{UO}_2)_2(\text{VO}_4)_2 \cdot 5\text{H}_2\text{O}$ with Ba:Pb=2:1. A sample from another locality, "d'origine métropolitaine," contained no Pb (microchemical test) and apparently is the barium end-member.

The mineral loses 7.8% H_2O up to 225° and 8.7% up to 520°, but heating for three hours at 225° drove off 8.6%. X-ray patterns of material heated at 520° showed no change, and the mineral rehydrates on being allowed to stand in the laboratory atmosphere. A D.T.A. curve shows a large endothermal effect at about 150-200°, smaller ones at 680° and 900°.

The mineral is orthorhombic with a perfect cleavage, (001). The faces (111), and especially (100) and (010) are rare. Optically biaxial, negative, with indices: (Pb-free) α 1.750 \pm 0.010, β 1.910 \pm 0.005, γ 1.945 \pm 0.005, $2V$ (calcd.) $46 \pm 2^\circ$; (lead-bearing) α 1.785, β 1.952, γ 2.002, each \pm 0.005, $2V$ (calcd.) $53 \pm 1^\circ$ (measured $52 \pm 1^\circ$. $X=c$, $Y=b$. Pleochroic, with X colorless, Y and Z yellow. Does not fluoresce in ultra-violet light. Hardness 3. G. (lead-bearing) 4.55.

An unindexed powder pattern is given. The strongest lines (d in Å) and intensities are: 8.30-10, 2.98-8, 4.17-6, 2.57-6, 2.10-5, 3.27-4, 2.01-4. The pattern resembles that of meta-tyuyamunite.

The mineral occurs as impregnations, as cryptocrystalline veinlets, and as crystal-plates several mm. in thickness in sandstones in the region of Franceville, French Equatorial Africa.

The name is for the locality.

DISCUSSION—This is apparently the barium analog of meta-tyuyamunite.

MICHAEL FLEISCHER

Bonattite

CARLO L. GARAVELLI, Bonattite: Un nuovo minerale di alterazione del giacimento Elbano di Capo Calamita. *Rend. soc. mineralog. ital.* **13**, 268 (1957).

The name bonattite is given to $\text{CuSO}_4 \cdot 3\text{H}_2\text{O}$, found as a secondary mineral in the deposits of Cape Calamita, Elba. Chemical analysis (not given) corresponds to 85% $\text{CuSO}_4 \cdot 3\text{H}_2\text{O}$, 15% $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$, with a little Fe and Mg present. The mineral is in the form of concretions composed of minute individuals. Artificial crystals are monoclinic, domatic, with $a:b:c=0.432:1:0.552$, β $96^\circ 25'$. The strongest lines of the x-ray powder pattern are 4.40 (100), 3.24 (67), 3.65 (54), and 3.42 (50). Mean indices of the natural material ranged from 1.578 to 1.601; the artificial material had n_s , α 1.554, β 1.577, γ 1.618.

Origin of the name is not stated; perhaps named for Prof. Stefano Bonatti of Pisa.

M.F.