NEW MINERAL NAMES

Kurgantaite

Ya. Ya. Yarzhemskii, Kurgantaite—a new borate mineral. *Mineralog. Sbornik, Lvovskoe geol. Obschestvo* No. 6, 169–174 (1952) (in Russian).

The mineral occurs in nodules up to 4 cm. in diameter, but usually much smaller, in gypsum-anhydrite beds in the western Kurgan-Tau (western Kazakhstan). It is extremely fine-grained. Analysis by T. V. Mandr'ikin gave B_2O_3 36.08, CaO 17.64, SrO 32.66, SO_3 6.07, loss when heated 7.5; sum 99.95%. The SO_3 is deducted as gypsum and anhydrite in the ratio 3:1, and the remainder gives nearly $(Sr, Ca)_2(BO_2)_4 \cdot H_2O$ with Sr slightly greater than Ca. The mineral is hard (scratches glass). It is optically biaxial with a very small optic angle, nearly uniaxial positive. Measurements by the immersion method gave $\alpha = 1.641$, $\gamma = 1.682$. Elongation positive. The specific gravity is variable, about 3 in one sample (sank slowly in bromoform with D.=2.89), but is less in other samples. A differential thermal analysis showed several endothermic reactions; those below 350° C. are attributed to gypsum. A large effect at 500° C. is attributed to loss of water of crystallization, and one beginning at 900° C. is attributed to the fusion of the borate, which is complete at 1040° C. It is stated that x-ray data indicate that the mineral differs from other borates; the data will be published later.

The name is for the locality.

Discussion: Differs in many ways from veatchite, the only other known strontium borate.

Michael Fleischer

Suanite

Takeo Watanabe, Suanite, a new magnesium borate from Hol Kol, Suan, North Korea. *Mineralogical Journal (Mineralog. Soc. Japan)* 1, No. 1, 54–62 (1953).

A preliminary report on this mineral was abstracted in *Am. Mineral.*, 39, 692 (1954). Suanite is white, luster silky to pearly, hardness $5\frac{1}{2}$, G.=2.91. Optically biaxial, negative, $\alpha = 1.596$, $\beta = 1.639$, $\gamma = 1.670$, $2V_\alpha$ 70°, $X = b$ (parallel to fibers), dispersion $r > v$, weak. X-ray data are given in the previous abstract.

Analyses (1) by K. Isono, (2) and (3) by N. Saito and N. Kokubu gave (1 and 2 contained a little calcite, 3 contained a little szaibelyite): B_2O_3 38.20, 40.08, 42.28; MgO 46.48, 46.63, 50.64; CaO 3.70, 5.06, 1.52; $Al_2O_3 + Fe_2O_3$ 1.30, 0.95, 0.63; SiO_2 0.70, 0.60, 0.80; Na_2O 0.90, −, −; CO_2 5.70, 5.01, −; H_2O^+ 3.50 (inc. H_2O^-), 0.90, 3.87; H_2O^- −, 0.23, 0.19; sum 100.48, 99.46, 99.93%. Difficulty soluble in cold dilute HCl, difficult to fuse. *D.T.A.* study shows an endothermal break at 630°; this is probably due to transformation to the triclinic dimorph of $Mg_2B_2O_5$. The mineral occurs at the Hol Kol gold copper mine, Suan County, Korea, in kotoite marble associated with calcite, szaibelyite, kotoite, spinel, and clinohumite.

The name is for the locality.

M. F.

Severginite

G. P. Barsanov, The isomorphous series of axinite, and the new mineral species severginite. *Trudy Mineralog. Muzeia, Akad Nauk S.S.S.R. No. 3*, 10–18 (1951) (In Russian) (from an abstract kindly prepared by Dr. Wilhelm Eitel).

The mineral occurs in quartz veins in the metamorphosed manganese silicate deposit of Tungatorovo-Uralinsk, southern Urals. It occurs as bright-yellow compact aggregates. Analysis gave SiO_2 42.84, TiO_2 none, Al_2O_3 16.50, Fe_2O_3 2.82, FeO none, MgO 0.66, MnO 14.79, CaO 16.96, alkalies none, H_2O^+ 0.69, B_2O_3 4.13, F none; sum 99.39%, formula (Ca,

Mn)$_2$Mn(Al, Fe^{III})BH(SiO$_4$)$_4$; this is considered to be the Mn end-member of the axinite series.

The mineral is optically positive, α 1.687, γ 1.698, 2V variable, 75–85°, dispersion $v>r$, γ: (011) $=10°$. Pleochroism weak, colorless to yellowish. Anomalous dispersion was noted with deep-blue and reddish-brown colors.

X-ray powder data are given; they are practically identical with those for axinite. No data on hardness or sp. gr. are given. The data are compared with those for analyzed axinites; the indices of refraction increase with increasing Mn content and the optic sign changes from negative to positive.

The name is for Vasiliy Michailovich Severgin, 1765–1826, Russian mineralogist.

DISCUSSION: The name seems to be unnecessary; the composition is far from that of a hypothetical manganese end member. Tinzenite (*cf* Milton, Hildebrand, and Sherwood, *Am. Mineral.* **38**, 1148–1158 (1953)) is an axinite with 21.19% MnO. Tinzenite is optically negative, showing that the relation between optic sign and MnO content is not as simple as Barsanov indicates.

<div align="right">M. F.</div>

Likasite

A. SCHOEP, W. BORCHERT AND K. KOHLER, La likasite, Cu$_{12}$(OH)$_{14}$(NO$_3$)$_4$(PO$_4$)$_2$, nouveau minéral. *Bull. soc. franc. minéral. et crist.*, **78**, 84–88 (1955).

The mineral, discovered by Madam R. Stradiot-Duvieusart, occurs at the Likasi copper mine, Belgian Congo, as crystals implanted on cuprite or as blue masses in cuprite, surrounded by a crust of malachite and by malachite pseudomorphs after likasite. Associated minerals are native Cu, native Ag, buttgenbachite, and brochantite. Likasite is orthorhombic; the crystals are tabular with c (001) predominant; other forms measured include r (101), k (105), g (108), b (010), d (012), e (014), f (018). Rotation and Weissenberg diagrams give: $a=5.79$, $b=6.72$, $c=21.65$ Å, $a:b:c=0.862:1:3.222$. Probable space group $D^9_{2h}-Pcma$. Cleavage perfect and easy on (001), giving sky-blue lamellae.

Analysis gave Cu 55.54, NO$_3$ 15.06, PO$_4$ 14.56 (these on a 38 mg. sample), OH 16.50% (on a 24.1 mg. sample). (This gives a sum of 101.66% M.F.). [The formula Cu$_{12}$(NO$_3$)$_4$ (PO$_4$)$_2$(OH)$_{14}$ requires Cu 53.0, NO$_3$ 17.2, PO$_4$ 13.2, OH 16.5%. M.F.] Sp. gr.$=2.96$–2.98, by suspension in a mixture of methylene iodide and benzol. The unit cell contains 1 formula weight. Likasite dissolves readily in dilute acids; it gives H$_2$O when heated in a closed tube.

Indices of refraction measured were 1.61 ($=a$, blue, slightly greenish), 1.69 ($=b$, blue, somewhat violet). The optic axial plane is parallel to (001).

DISCUSSION: According to an editorial note, the Committee on Nomenclature of the French Society suggested that it would be of interest to make an x-ray comparison of likasite with gerhardtite (whose formula may be written for comparison Cu$_{12}$(NO$_3$)$_6$(OH)$_{18}$), but material was lacking for this comparison.

<div align="right">M. F.</div>

Vésigniéite

CLAUDE GUILLEMIN, Une nouvelle espèce minérale: la vésigniéite Cu$_3$Ba(VO$_4$)$_2$(OH)$_2$. *Compt. rend.*, **240**, 2331–2333 (1955).

Samples from Friedrichsroda, Thuringia, labelled "calciovolborthite," from Perm, Urals, labelled "volborthite," and from Agalik, Uzbekistan, labelled "kolovratite" were found to be a new mineral. It occurs as lamellar aggregates and as polysynthetic twins with pseudohexagonal outline up to more than 0.5 mm. in diameter. The color varies from yellow-green to dark olive-green, luster vitreous. There is a good cleavage parallel to the base.

The x-ray powder pattern differs from those of volborthite, tangeite, and mottramite, but is similar to that of monoclinic bayldonite, Cu$_3$Pb(AsO$_4$)$_2$(OH)$_2$. The strongest lines have spacings 3.20, 2.71, and 2.29 Å. Vésigniéite is optically biaxial, negative with ns $\alpha=2.04$, $\beta=2.07$, $\gamma=2.08$, 2V about 60°, extinction 10° from the twin plane. The acute

bisectrix is perpendicular to the plane of cleavage; Z is parallel to the elongation. G. 4.05 ± 0.03, hardness 3 to 4.

Microchemical analysis on a 14 mg. sample from Friedrichsroda gave CuO 37.6, BaO 23.9, V_2O_5 31.2, H_2O^+ 3.5, insol. 3.3; sum 99.5%. Analysis of synthetic material gave CuO 39.8, BaO 26.4, V_2O_5 30.8, H_2O^+ 3.1; sum 100.1%. These correspond to $Cu_3Ba(VO_4)_2$ $(OH)_2$. The mineral loses water between 445° and 530°.

Vésigniéite was synthesized (*a*) by heating volborthite with barium acetate solution at 180°; (*b*) by heating barium metavanadate with copper nitrate solution; (*c*) by heating malachite, witherite, and vanadic acid at 180° in a sealed tube.

The mineral occurs at Friedrichsroda with barite and calcite in geodes in manganese ores, including vanadium-bearing psilomelane, and at Agalik and Perm on quartzite. It is suggested that the unnamed copper barium vanadate of Hillebrand and Merwin (*Am. J. Sci.*, **8**, 201 (1924)) from Paradox Valley, Colorado, was vésigniéite.

The name is for Colonel Louis Vésignié, 1870–1954, mineral collector, president of the Mineralogical Society of France in 1932.

M. F.

Chalconatronite

Clifford Frondel and Rutherford J. Gettens, Chalconatronite, a new mineral from Egypt. *Science*, **122**, No. 3158, 75–76 (1955).

The material was found as a fine-grained, greenish-blue crust, associated with cuprite and atacamite, as a corrosion product of three ancient bronze objects. Analysis gave Na_2O 20.0, CuO 26.8, CO_2 29.5, H_2O 20.4, PbO 2.8, SiO_2 0.5, R_2O_3 0.6; total 100.6%, corresponding to $Na_2Cu(CO_3)_2 \cdot 3H_2O$. The artificial compound was first prepared by Deville in 1952; it can be made by grinding copper acetate with a saturated solution of Na_2CO_3. The material is partly decomposed by water, completely soluble in cold acid with effervescence. The crystals are small laths or pseudohexagonal plates, probably monoclinic. $\alpha = 1.483$, $\beta = 1.530$, $\gamma = 1.576$, 2V large, probably positive; Z is perpendicular to flattening of the crystals, Y is parallel to the elongation of the laths; $Z \wedge c$ apparently very small. Strongly pleochroic, X nearly colorless, Y pale blue, Z blue. Hardness low, G. $2.27 \pm .03$. The five strongest lines of the *x*-ray powder pattern have spacings 6.92, 4.17, 3.68, 2.87, and 2.42 Å, in order of decreasing intensity. The material was probably formed by reaction of solutions containing alkali carbonates with the bronze objects. The name is from the Greek words for copper and sodium.

Discussion: There is considerable difference of opinion as to whether mineral names should be given to materials like this. Compare the lead oxychlorides from Laurium, Greece, also calclacite (*Am. Mineral.*, **32**, 254 (1947)).

M. F.

Coffinite

L. R. Stieff, T. W. Stern, and A. M. Sherwood, Preliminary description of coffinite—a new uranium mineral. *Science*, **121**, 608–609 (1955).

See *Am. Mineral.*, **39**, 1037 (1954) for preliminary data. The following additional data are given. Formula probably $U(SiO_4)_{1-x}(OH)_{4x}$. Infrared absorption spectra indicate the presence of bonded OH groups. G. 5.1. Tetragonal with a_0 6.94, c_0 6.31 Å. Found at more than 15 uranium mines on the Colorado Plateau, also in Fremont Co., Wyo., near Globe, Ariz., and "several foreign localities." The name is for Reuben Clare Coffin, a pioneer in the study of the uranium deposits of the Colorado Plateaus.

M. F.

NEW DATA

Ianthinite

Claude Bignand, Sur les propriétés et les synthèses de quelques minéraux uranifères. *Bull. soc. franc. minéral. et crist.*, **78**, 1–26 (1955).

Ianthinite from the type locality, Chinkolobwe, Katanga, was re-examined. A semi-microchemical analysis gave UO_3 71.6, UO_2 10.9, CaO 6.8, H_2O 7.2, CO_2 3.6, Fe traces; sum 100.1%, corresponding to $3CaO \cdot UO_2 \cdot 6UO_3 \cdot 2CO_2 \cdot 10H_2O$ or $3CaO \cdot 7UO_{2.83} \cdot 2CO_2 \cdot 10H_2O$. The formula had previously been supposed to be $2UO_3 \cdot 7H_2O$. Rotation measurements gave $a = 11.25 \pm 0.03$, $b = 7.08 \pm 0.02$, $c = 20.98 \pm .05$ Å. $Z = 2$. G. $= 4.94 \pm .03$. Optical and dehydration data are given. The water is lost between 80° and 260°, the CO_2 at 650°. X-ray powder data are given.

A violet hydrate, closely resembling ianthinite, was synthesized. Three analyses gave $UO_{2.84} \cdot xH_2O$. The x-ray powder pattern differs from that of ianthinite, but agrees closely with that of "ianthinite" from Puy-de-Dome, France, described by Branche, Chervet and Guillemin, *Bull. soc. franc. minéral et crist.*, **74**, 457 (1951). Its oxidation product gave the formula $4UO_3 \cdot 5H_2O$ and gave an x-ray powder pattern close to that of the oxidation product of the French material. Pending further study, no name is given to this material.

<div align="right">M. F.</div>

Griffithite (= Ferroan Saponite)

G. T. FAUST. Thermal analysis and x-ray studies of griffithite. *J. Wash. Acad. Sci.*, **45**, 66–70 (1955).

Griffithite (Larsen and Steiger, 1917) has generally been classed with the chlorites or vermiculites. New x-ray and *D.T.A.* data show it to be a member of the montmorillonite group, an iron-rich saponite.

<div align="right">M. F.</div>

DISCREDITED MINERALS
Lehnerite = Ludlamite

LJUDEVIT BARIĆ, Zur Identiät des Lehnerits und des Ludlamits: *Neues Jahrb. Mineral., Monatsh.* **1955**, No. 3, 49–53.

Crystallographic and optical study of "lehnerite" from the North Hagendorf pegmatite confirm its identity with ludlamite (*c.f.* Berman, *Am. Mineral.*, **10**, 428–429 (1925), Wolfe, *Am. Mineral.*, **34**, 94–97 (1949).

<div align="right">M. F.</div>

Wisaksonite (= uranoan thorite)

C. O. HUTTON, *Am. Mineral.*, **39**, 825–829 (1954).

<div align="right">M. F.</div>

Koïvinite (= Florencite)

V. A. FRANK-KAMENETSKY, A. I. KOMKOV, and V. V. NARDOV, X-ray data on florencite and koïvinite. *Zapiski Vses. Mineral. Obshch.* (*Mém. soc. russe minérale*) **82**, 297–301 (1953).

Labuntsov (*Trudy Mineral. Muzeya*, 1950, 135–136) described crystals of florencite from Ural placers. Kukharenko (*Zapiski Vses. Mineral. Obshch.*, **80**, 238 (1951)) stated that these differed optically from florencite and also differed chemically, analyses (not given) leading to the formula $(Ce, etc.)_2Al_6(PO_4)_4(OH)_2 \cdot 2H_2O$ whereas florencite is

$$Ce_2Al_6(PO_4)_4(OH)_{12}$$

Optical, goniometric, and x-ray data by Frank Kamenetsky *et. al.* now show that koïvinite is identical with florencite. The optical data show some variation, perhaps indicating a range of composition.

<div align="right">M. F.</div>

Lembergite (= iron-rich Saponite)

TOSHIO SUDO, Iron-rich saponite found from Tertiary iron sand beds of Japan. (Re-examination of "Lembergiet"). *J. Geol. Soc. Japan*, **60**, 18–27 (1954).

X-ray study and differential thermal analysis of "lembergite" (see *Am. Mineral.*, **32**, 483 (1947)) shows it to be a saponite. Analysis by Joyo Ossaka gave SiO_2 39.68, TiO_2 0.37, Al_2O_3 3.93, Fe_2O_3 19.82, FeO 1.12, MnO 0.19, CaO 2.37, MgO 11.21, H_2O^- 15.11, H_2O^+ 6.16; sum 99.96%. This is higher in Fe than any saponite previously recorded.

<div align="right">M. F.</div>