NEW MINERAL NAMES

Duttonite

Mary E. Thompson, Carl H. Roach, and Robert Meyrowitz, Duttonite, new vanadium mineral from Peanut Mine, Montrose County, Colorado. *Science*, **123,** No. 3205, p. 990 (1956).

Analysis (by R. M.) gave V_2O_3 2.6, V_2O_4 75.3, FeO 0.4, H_2O 18.1, insol. 4.2; sum 100.6%, corresponding to $VO(OH)_2$. Duttonite is light brown, luster vitreous, hardness about 2½. *X*-ray study shows it to be monoclinic, strongly pseudo-orthorhombic, space group $I2/c$ (C_{2h}^6); the unit cell (measured by M. E. Mrose) has a_0 8.80±0.02, b_0 3.95±0.01, $c_0$5.96±0.02 Å, β 90°40′±5′, Z=4. G. calcd.=3.24.

Duttonite is optically biaxial, pos., $\alpha=1.810\pm0.003$, $\beta=1.900\pm0.003$, $\gamma=2.01$, 2V about 60°, $r<v$, moderate; X=a (pale pinkish brown), Y=c (pale yellow brown), Z=b (pale brown).

Duttonite occurs as crusts and coatings on an undescribed V oxide along fractures in ore-bearing sandstone. The crystals are six-sided platy crystals up to 0.5 mm. in the longest dimension. Associated minerals are melanovanadite and hexagonal native Se. The principal ore minerals of the mine include montroseite, paramontroseite, uraninite, coffinite, and vanadiferous silicates.

The name is for Clarence Edward Dutton, 1841–1912, geologist.

Michael Fleischer

Paradamite

George Switzer, Paradamite, a new zinc arsenate from Mexico. *Science*, **123,** No. 3206, p. 1039 (1956).

Paradamite is a triclinic dimorph of adamite. Analysis gave ZnO 56.22, FeO 0.45, Fe_2O_3 0.12, As_2O_5 40.17, H_2O^+ 3.44; sum 100.40%, corresponding to $Zn_2(AsO_4)(OH)$. Transparent, pale yellow, luster vitreous, G. 4.55±0.02. Cleavage {010} perfect. Optically biaxial, neg., $\alpha=1.726$, $\beta=1.771$, $\gamma=1.780$ (all ±0.002), 2V 50°. *X*-ray powder data are compared with those for the triclinic phosphate analogue tarbuttite and for adamite. For paradamite, the strongest lines and intensities are in Å: 6.33 10, 3.71 10, 2.99 9, 2.84 9, 2.49 8.

Paradamite was found on specimens from the Ojuela Mine, Mapimi, Durango, Mexico, as sheaflike aggregates of crystals and as somewhat rounded and striated equant crystals up to 5 mm. in size. It was found with mimetite and adamite on a matrix of limonite. Legrandite, plattnerite, and murdochite occur at the same locality.

M. F.

Nekoite

J. A. Gard and H. F. W. Taylor, Okenite and nekoite (a new mineral). *Mineralog. Mag.*, **31,** 5–20 (1956).

Re-examination of material from Crestmore, Cal., described as okenite by Eakle, *Bull. Dept. Geol. Univ. Calif.*, **10,** 327 (1919), showed that it differed from type okenite. Weissenberg and *x*-ray powder data are given; the unit cell has $a=7.60$, $b=7.32$, $c=9.86$ Å, $\alpha=111°48′$, $\beta=86°12′$, $\gamma=103°54′$, and contains $3(CaO.2SiO_2.2H_2O)$. The crystals are needles showing repeated twinning with lamellae parallel to the good cleavage, (100). Mean index (Na) 1.535±0.002. Material heated to 900° C. gave the pattern of a slightly disordered wollastonite (or parawollastonite). Indexed *x*-ray powder data are given; the strongest lines in Å are 9.25, 3.36 (*b*), 2.82. Comparison of these data with those measured on okenite show the minerals to be distinct and apparently dimorphous.

The name is an anagram of okenite.

M. F.

NEW DATA

Bøggildite

HANS PAULY, Bøggildite, a new phosphate-fluoride from Ivigtut, South Greenland. *Meddelelser om Gronland*, **137**, No. 6, 15 pp. (1956).

CHR. K. MOELLER. *X*-ray investigation of bøggildite, *Ibid.*, 8 pp. (1956).

Preliminary data on this mineral were abstracted in *Am. Mineral.*, **39**, 848–849 (1954). The following new data are given: Optically biaxial, pos., 2V=78–80°, *ns* (all ± 0.002) $\alpha=1.462$, $\beta=1.466$, $\gamma=1.469$, $\gamma=b$, α: $a=36°$. Monoclinic, pseudo-orthorhombic, space group $P2_1/c$, $a=5.24$, $b=10.48$, $c=18.52$, β 107.35°; the unit cell contains $4[Na_2Sr_2Al_2(PO_4)F_9]$.

M. F.

Tuhualite

C. OSBORNE HUTTON, Re-examination of the mineral tuhualite. *Mineralog. Mag.*, **31**, 96–106 (1956).

Tuhualite was originally described (Marshall, 1932) as a variety of amphibole, but later (1936) Marshall thought it to be a distinct mineral. However, no analysis had been made. Hutton now re-defines the mineral. Analysis gave SiO_2 62.93, Al_2O_3 0.63, Fe_2O_3 14.09, FeO 9.58, MgO 0.42, CaO tr?, MnO 0.81, Na_2O 7.11, K_2O 1.74, H_2O^- 0.38, H_2O^+ 1.61, TiO_2 0.42, P_2O_5 none; sum 99.72%. This corresponds to the formula $H_9(Na, K)_{12}Fe_6''Fe_9''' (Si_3O_8)_{15}$.

Tuhualite is orthorhombic, space group either $Cmca-D^{18}_{2h}$ or $C2ca-C_{2v}^{17}$. The unit cell has $a=14.31$, $b=17.28$, $c=10.11$ Å, Z=1; a:b:c (x-ray) =0.828:1:0.585, (goniometric) =0.8243:1:0.5658. Cleavages (100), (010), (001) good, G.=2.89, hardness 3–4, very brittle. Optically biaxial, positive, $\alpha=1.608\pm0.003$, β 1.612, γ 1.621 ± 0.003; beta=b, gamma =c, X colorless to very pale pink, Y violet or lavender, Z intense purplish-blue, 2V variable, for analyzed material=70° at 4900Å, 61–62° at 6026 Å. Indexed x-ray powder data are given; the strongest lines are at 7.16, 2.766, and 3.18 Å.

M. F.

Bayerite

T. G. GEDEON, Bayerite in Hungarian bauxite. *Acta Geol. Acad. Sci. Hung.*, **4**, 95–105 (1956).

Bayerite, a dimorph of gibbsite, long known as a synthetic product, is now reported as a naturally occurring mineral. Differential thermal analyses of gibbsite gave peaks at about 305° and at 510–530°, whereas synthetic bayerite gave two peaks at about 210° and 266–284°. Bauxite from Fenyöfö gave a single peak, measured at 296° to 365° on 3 different instruments. A similar curve with a single peak at 290° was obtained on material from Portole, Istria, which is a fibrous travertine-like substance deposited from sulfurous springs. Since the curves show no indication of the 510–530° peak (decomposition of boehmite), these are believed to be bayerite. The Fenyöfö material contained Al_2O_3 65.30, SiO_2 0.36, Fe_2O_3 0.50, TiO_2 none, CaO 0.28, MgO 0.19, SO_3 trace, ignition loss 33.30; sum 99.93%. Differential thermal analyses of 14 analyzed Hungarian bauxites show slight peaks at 186° to 220°; they are calculated to contain 4.4 to 13.2% bayerite.

DISCUSSION: *X*-ray confirmation is needed.

M. F.

DISCREDITED MINERALS

Waltherite (=Walpurgite)

E. FISHER, Identität von Waltherit und Walpurgin. *Chemie der Erde,* **17,** 341–345 (1955).

X-ray study of 8 samples of waltherite (presumably a bismuth carbonate) from the type locality showed that it is identical with walpurgite (bismuth uranium arsenate). Microchemical tests showed Bi, U, As, and P, and CO_2 (admixed bismutite?) Other properties including physical properties and c_0 (5.42 waltherite, 5.49 walpurgite) are in good agreement. The name waltherite (1857) has priority over walpurgite (1877), but the description was so inadequate that the name waltherite should be dropped.

M. F.

Alushtite (=Dickite+hydrous mica)

L. V. LOGVINENKO, AND V. A. FRANK-KAMENETSKII, On the so-called alushtite. *Doklady Akad. Nauk SSSR,* **105,** 554–557 (1955) (in Russian).

Alushtite was described by Fersman in 1907 as a hydrous aluminum silicate from Alushta, Crimea. It is now shown by chemical, optical, *x*-ray, and *D.T.A.* study to be dickite with admixed hydrous mica.

M. F.