

## NEW MINERAL NAMES

### Indialite

AKIHO MIYASHIRO AND TOSHIMICHI IYAMA, A preliminary note on a new mineral, indialite, polymorphic with cordierite. *Proc. Japan Acad.*, **30**, 746-751 (1954).

X-ray spectrograms of natural cordierite differ, especially in the range of  $2\theta$  between  $29^\circ$  and  $30^\circ$  for Cu  $K\alpha$  radiation from those of synthetic  $\alpha$ - $Mg_2Al_4Si_5O_{18}$  and  $\beta$ - $Mg_2Al_4Si_5O_{18}$ . Alpha- $Mg_2Al_4Si_5O_{18}$  is hexagonal with  $a$  9.782 Å,  $c$  9.365 Å. The so-called "synthetic iron cordierite" (Schairer and Yagi, *Am. J. Sci., Bowen Vol.*, 471-512 (1952)) is the corresponding hexagonal  $\alpha$ - $Fe_2Al_4Si_5O_{18}$ , with  $a$  9.860 Å,  $c$  9.285 Å. Beta- $Mg_2Al_4Si_5O_{18}$ , synthesized by F. R. Boyd of the Geophysical Laboratory, is also hexagonal with  $a$  9.792 Å,  $c$  9.349 Å. Both of these give patterns similar to, but distinctly differing from those of the two naturally occurring polymorphs of cordierite which are orthorhombic (or possibly monoclinic), pseudohexagonal.

It has now been found that the "cordierite" described by Venkatesh, *Am. Mineral.*, **37**, 831-948 (1952), **39**, 636-646 (1954) is actually the alpha-form, which is now named indialite. X-ray powder data are given; they are indexed and lead to a hexagonal cell with  $a$  9.812 Å,  $c$  9.351 Å, indicating a ratio of Mg: Fe<sup>+2</sup> of 7:3. The mineral occurs in sedimentary rocks fused by the burning of a coal seam in the Bokaro coalfield, India. The burning was due to some natural cause.

The name is for India.

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### Pavonite

E. W. NUFFIELD, *Am. Mineral.*, **39**, 409-415 (1954).

### Unnamed Magnesium Borate

R. M. THOMPSON AND J. A. GOWER, *Am. Mineral.*, **39**, 522-524 (1954).

### Callaghanite

C. W. BECK AND J. H. BURNS, *Am. Mineral.*, **39**, 630-635 (1954).

### Ortho-antigorite

G. W. BRINDLEY AND O. VON KNORRING, *Am. Mineral.*, **39**, 794-804 (1954).

M. F.

### Berillite

M. V. KUZMENKO, Berillite—a new mineral. *Doklady Acad. Nauk. S.S.S.R.*, **99**, 451-454 (1954) (in Russian).

Berillite occurs as fine spherulites 2-3 mm. in diameter or as crusts up to 2 mm. thick in cavities. Color white, luster silky. Soft. Berillite is optically biaxial, negative, with  $ns$ ,  $\alpha = 1.541 \pm 0.003$ ,  $\beta = 1.553 \pm 0.002$ ,  $\gamma = 1.560 \pm 0.002$ ,  $2V$  small, less than  $45^\circ$ . Extinction parallel, elongation positive.  $G = 2.196$ .

Analysis on 250 mg. by M. E. Kazakova gave  $SiO_2$  34.10,  $TiO_2$  tr.,  $Al_2O_3$  1.63,  $Fe_2O_3$  0.12,  $MgO$  tr.,  $BeO$  40.00,  $CaO$  0.50,  $Na_2O$  2.42,  $H_2O^+$  18.95,  $H_2O^-$  3.25; sum 100.97%. (Sum given as 100.47 in original. M.F.). This corresponds closely to  $Be_3SiO_4(OH)_2 \cdot H_2O$  (neglecting the  $Al_2O_3$ ,  $CaO$ ,  $Na_2O$ , and  $H_2O^-$ . M.F.). Spectrographic study showed moderate lines of Ba and Mn and weak lines of P and Cu. A dehydration curve is given; about 12%  $H_2O$  is lost up to  $350^\circ$ .

X-ray powder data are given. The strongest lines have spacings ( $\text{\AA}$ ?  $K\alpha$ ?) and intensities: 4.10 10, 2.34 10, 3.64 9, 1.351 8, 3.39 7, (3.19, 2.90) 7, 2.12 7, 2.03 7, 1.937 7, 2.703 6.

Berillite occurs in the center of a zoned pegmatite that cuts aegirine lujavrite. The border zone consists mainly (70–80%) of aegirine and arfvedsonite; these decrease in amount towards the center and microcline and natrolite increase. The center zone consists mainly of natrolite with relicts of very coarse sodalite (hackmannite) and with fine-grained albite. Berillite occurs rarely in cavities and coating albite and epididymite. The locality is not stated (could be Kola Peninsula? M.F.)

DISCUSSION: The name as given is a direct transliteration, but perhaps the spelling beryllite would be preferable.

M. F.

### Shcherbakovite

E. M. ES'KOVA AND M. E. KAZAKOVA, Shcherbakovite—a new mineral. *Doklady Akad. Nauk. S.S.S.R.*, **99**, 837–841 (1954) (in Russian).

Analysis (by M.E.K.) gave  $\text{SiO}_2$  40.61,  $\text{Al}_2\text{O}_3$  0.76, (Nb, Ta) $_2\text{O}_5$  10.44, rare earths none,  $\text{TiO}_2$  17.91,  $\text{ZrO}_2$  1.23,  $\text{Fe}_2\text{O}_3$  1.080, FeO 0.47, MnO 0.04, MgO 0.26, CaO 0.82,  $\text{Na}_2\text{O}$  5.82, BaO 6.22,  $\text{K}_2\text{O}$  12.29, Cl 0.30,  $\text{H}_2\text{O}^+$  0.54,  $\text{H}_2\text{O}^-$  0.10, F none; sum 99.61%. Check determinations by O. P. Ostrogorskaya gave  $\text{Na}_2\text{O}$  5.69,  $\text{K}_2\text{O}$  12.64%. This corresponds to  $(\text{K}, \text{Na}, \text{Ba})_3(\text{Ti}, \text{Nb})_2(\text{Si}_2\text{O}_7)_2$ , with  $\text{K} + \text{Ba} : \text{Na}$  nearly 2:1. Spectroscopic study by L. N. Indichenko showed also moderate V and Sr, weak Sn, and traces of Pb and Cu. The mineral is insoluble in  $\text{HNO}_3$  and HCl, partly soluble in  $\text{H}_2\text{SO}_4$  on heating.

Shcherbakovite occurs in monoclinic crystals, elongated prismatic, length up to 1.5–2 cm., width 0.3–0.8 cm., and thickness 0.05–0.2 cm. Two-circle goniometric measurements are given for forms  $a(100)$ ,  $b(010)$ ,  $c(001)$ ,  $m(110)$ ,  $S(\bar{1}01)$ , and  $n(hk0)$ , uncertain, nearest to (310)). Only a few terminated crystals were observed. The measurements give  $a:b:c = 0.70:1:?$ ,  $\beta = 126^\circ 33'$ . Two cleavages were observed under the microscope. X-ray powder data are given; the strongest lines in  $\text{\AA}$  were: 2.90 10, 1.081 10, 2.64 7, 1.688 7, 1.576 6.

The mineral is dark brown with luster vitreous, greasy on fracture surface. Brittle.  $H. = 6\frac{1}{2}$ ,  $G. =$  (pycnometer) 2.968. It is biaxial, negative, with  $n_s, \alpha = 1.707$ ,  $\beta = 1.745$ ,  $\gamma = 1.776$ ,  $2V = 82^\circ$ . Elongation positive. Distinctly pleochroic, Z brownish-yellow, Y yellow, X pale yellow. Opaque in hand specimen to translucent on thin edges.

The mineral occurs in a pegmatite in alkalic rocks (rischorrite), associated with and including natrolite–pectolite aggregates. Other minerals present include albite, K feldspar, astrophyllite, apatite, galena, sphalerite, and molybdenite. The locality is not given specifically, but one table is headed "Shcherbakovite from Khibina Tundra." The name is for D. I. Shcherbakov, Russian mineralogist and geochemist.

M. F.