

NEW MINERAL NAMES

Selenocosalite

OLOF H. ÖDMAN: Geology and ores of the Boliden deposit, Sweden. *Sveriges Geol. Undersökning, Årsbok* 35 (no. 1), 190 pp. (1941); pp. 87-88.

COMPOSITION: Probably a selenian cosalite, $Pb_2Bi_2(S, Se)_5$, but possibly a selenian galenobismutite, $PbBi_2(S, Se)_4$.

Analyses 1 and 2 below were made on material containing very little chalcopyrite, pyrrhotite, and sternbergite (?), but which was intergrown with galena in fairly large amounts. If chalcopyrite, pyrrhotite, and Ag_2S are deducted, analysis 2 gives molecular ratios:

	<i>Pb</i>	<i>(Bi+Sb)</i>	<i>(S+Se+Te)</i>
Analysis 2	214	175	463
Cosalite	175	175	438, leaving Pb 39, S 25
Galenobismutite	87	175	350, " Pb 127, S 113

The statement is made, "Neither of the two calculations can be said to be conclusive and the determination of the mineral as a subspecies of cosalite must be subject to strong reservation."

PHYSICAL AND OPTICAL PROPERTIES: Tin-white and indistinctly lamellar in hand specimen. $G. = 7.00$. Optically very similar to galena in color and reflectivity. Slightly softer than galena. Pleochroism weak in air, distinct in oil immersion, varying from creamy white to gray with a greenish tint. The anisotropism is distinct. The extinction is somewhat oblique.

OCCURRENCE: Occurs in quartz apophyses and in quartz-tourmaline veins from the 210 m. and 410 m. levels of the Boliden mine, Västerbotten province, northern Sweden.

Selenokobellite

OLOF H. ÖDMAN: *op. cit.*, pp. 89-90.

COMPOSITION—A selenian kobellite, $Pb_2(Bi, Sb)_2(S, Se)_5$?

Analyses 3-6 below were made on homogeneous material containing only small amounts of arsenopyrite, cobaltite, chalcopyrite, sphalerite, bournonite, and an undetermined bismuth telluride, with traces of galena. After deducting these accessory minerals, the following molecular proportions were obtained.

No.	Pb	Bi+Sb	S+Se
3	2	2.1	5.2
4	2	2.3	5.4
5	2	2.4	5.54
6	2	2.7	6.36

The variations are believed to be due to solid solution, rather than to impurities.

PHYSICAL AND OPTICAL PROPERTIES: Whitish gray in hand specimens, somewhat darker than selenocosalite. Somewhat softer than galena. The optical properties are very similar to those of selenocosalite, but the pleochroism is stronger. Anisotropism fairly strong. $G. = 6.048-6.573$.

OCCURRENCE: Found in quartz-tourmaline veins on the 170 m. and 250 m. levels of the Boliden mine. Sometimes forms separate veins 5-10 cm. thick.

Analyses (by Thelma Berggren)						
	1	2	3	4	5	6
Pb	43.51	44.20	39.80	39.98	38.29	36.48
Bi	31.11	31.40	18.91	21.27	21.27	24.35
Sb	2.72	2.88	13.83	15.02	14.75	14.61
S	12.26	12.36	15.95	15.93	15.86	16.89
Se	6.32	6.38	5.66	5.00	5.74	4.78
Te	0.80	0.80	0.21	0.44	0.17	nil.
As	nil.	nil.	0.68	0.10	0.79	0.25
Cu	0.12	0.14	1.57	1.28	1.37	1.50
Fe	0.29	0.29	1.84	0.58	1.02	0.63
Ag	1.18	1.02	0.44	0.39	0.38	0.36
Insol.	1.62	0.66	1.00	nil.	—	nil.
	99.93 ^a	100.13 ^a	100.15 ^b	100.08 ^c	100.00 ^d	99.85 ^e
G. =	7.00	—	6.048	6.481	6.463	6.573

^a Ni, Co, Zn, Au, nil; ^b also Zn 0.22, Co 0.04, Ni, Au tr.; ^c also Zn 0.09, Ni, Co, nil; Au tr., Hg, Sn, spectroscopic tr.; ^d also Zn 0.22, Co 0.14, Ni, Au, tr.; recalculated after deducting 0.64% insol.; ^e Ni, Co, Zn, Au, nil. 1–2. Selenocosalite, stope 13, 210 m. level; 3. & 5. Selenokobellite, stope 12, 210 m. level; 4. & 6. Selenokobellite, main east drift, Sec. 11, 210 m. level.

DISCUSSION: Further work, particularly x-ray study, is needed for both minerals.

MICHAEL FLEISCHER

Ishkulite

G. P. BARSANOV: Ishkulite—a new mineral of the spinel group. *Comptes Rendus (Doklady) Acad. Sci. URSS*, **31**, 468–471 (1941).

NAME: For locality, Ishkul lake.

CHEMICAL PROPERTIES: A magnetite containing some chromium.

Analysis: TiO₂ 1.24, Fe₂O₃ 61.04, Al₂O₃ 0.03, Cr₂O₃ 11.19, FeO 24.05, MnO 0.54, MgO 1.31, NiO 0.18, H₂O 0.02, V₂O₅ 0.32; sum 99.92. After deducting 2.24% ilmenite and 16.47% Fe₂O₃ (martite), calculation gives FeFe₂O₄:FeCr₂O₄:MgFe₂O₄ = 8.7:2.5:1. The mineral is infusible. It dissolves with difficulty in conc. HCl on prolonged boiling, and is etched only by boiling conc. HCl or by cold HF.

PHYSICAL PROPERTIES: Color, tarry-black; streak, black. H. = 6–6½, G. = 5.079. Highly magnetic. Opaque. Isotropic in reflected light.

OCCURRENCE: Found in contact rocks near Ishkul Lake, associated with diopside, actinolite, phlogopite, and calcite.

DISCUSSION: An unnecessary name for chromian magnetite.

M. F.

DISCREDITED SPECIES

Tanatarite

J. D. GOTMAN: On the identity of tanatarite and diaspore. *Compt. Rendus Acad. Sci. URSS*, **31**, 29–30 (1941). Re-examination of type tanatarite (supposed to be monoclinic AlOOH) shows that the optics indicate orthorhombic symmetry. X-ray powder pictures of tanatarite and diaspore were identical.

M. F.