NEW MINERAL NAMES

Nahcolite

F. A. BANNISTER: The so-called 'thermokalite' and the existence of sodium bicarbonate as a mineral. *Mineralog. Mag.*, **22**, 53–64, 1929.

NAME: From the chemical symbols Na H C O-lite.

CHEMICAL PROPERTIES: Sodium bicarbonate $NaHCO_3$. Analyses on a mixture of minerals shows that from 20% to 25% of $NaHCO_3$ is present.

PHYSICAL AND OPTICAL PROPERTIES: Color white. Small crystals gave an extinction angle of 20° to an edge, the direction of which is negative. Very high birefringence and the maximum refractive index is only a little less than 1.590. [Winchell: Optical Characters of Artificial Minerals (*Madison*, **1927**), gives the following optical data for $NaHCO_3$ "Monoclinic with $a:b:c=0.765:1:0.358$; $\beta=86°41'$. Crystals prismatic with (010); perfect (101), distinct (111) and imperfect (100) cleavages. $G=2.22$. Optic plane is (010). $X\wedge c=+20°$, $(-)$, $2V=75°$, $\rho>v$. $N_g=1.586$, $N_m=1.500$, $N_p=1.380$; $N_g-N_p=0.206$. Colorless, white"].

OCCURRENCE: Found lining the walls of a tunnel (a cuniculi or old Roman underground conduit) near Stufe di Nerone, Baja. This locality is situated about 9 miles west of Naples in the Campi Phlegraei. Occurs intimately mixed with trona, thermonatrite and thenardite.

DISCUSSION: May be accepted as a mineral species. However, a complete optical examination accompanied by an analysis on the same material is desirable when suitable material becomes available. J. F. SCHAIRER

Mitscherlichite

F. ZAMBONINI and G. CAROBBI: Sulla presenza, tra i prodotti dell' attuale attività del Vesuvio, del tetraclorocupriato potassico diidrato, $K_2CuCl_4 \cdot 2H_2O$. *Anali R. Osservatorio Vesuviano*, [3], **2**, 7–9, 1925.

NAME: After the German chemist, Eilhardt Mitscherlich (1794–1863), who prepared this salt artificially (*Ann. Chim. Phys.*, **73**, 384, 1840).

CHEMICAL PROPERTIES: A hydrated double chloride, $2KCl \cdot CuCl_2 \cdot 2H_2O$. A qualitative analysis showed presence of Cu, K, Cl and H_2O and no other elements.

PHYSICAL and OPTICAL PROPERTIES: Color greenish-blue; tetragonal, $a:c=1:0.7525$. Forms present, $a(100)$ and $o(111)$. Optically unaxial negative, feeble pleochroism. Gr. = 2.418 at 20°C.

OCCURRENCE: Found as minute crystals on a small stalactite of salts at Vesuvius, SSW of the crater on Sept. 13, 1920, by Professor A. Malladra. It is a secondary product of the fumarolic activity. Occurs with sylvite and metavoltine.

DISCUSSION: Agrees crystallographically, optically, chemically and in physical properties with the artificial $2KCl \cdot CuCl_2 \cdot 2H_2O$ and may be accepted as a natural occurrence of this hydrated double chloride. J. F. S.

Maghemite

P. A. WAGNER: Changes in the oxidation of iron in magnetite. *Econ. Geol.*, **22**, 845–6, 1927. "Oxidized magnetite" or "ferro-magnetic ferric oxide" as Sosman and Posnjak originally named it, does occur in nature. Wagner finds it in the upper part of the norite zone of the Bushveld Igneous Complex. It is a strongly magnetic form of Fe_2O_3 that, except for the color of its streak, has all the properties of ordinary

hematite. To distinguish this "ferro-magnetic ferric oxide" from hematite and martite Wagner suggests the name *maghemite*. " 'Ferro-magnetic ferric oxide' is too long and 'oxidized magnetite' is misleading, as it contains no FeO." J. F. S.

'Chromloeweite'

W. WETZEL: Die salzbildungen der Chilenischen wüste. *Chemie der Erde*, **3**, 389–90, 1928.

In 1923 Wetzel referred to some minute trigonal crystals found in 'caliche' as dietzeite (*Caliche*, Vol. **4**, 1923). In 1924 (Supplementary table, *Caliche*, Vol. **5**, 1924) W. referred them to 'an iron sulfate' and now they are called 'chromloeweite.' Chromium was found by a microchemical test. The crystals are uniaxial negative, $\epsilon = 1.449$, $\omega = 1.496$.

DISCUSSION: The data are very unsatisfactory. Names should not be given to burden mineralogical nomenclature until more reliable data are procured.

J. F. S.

'Manganese silicate from the Hôkô Mine'

K. KINOSHITA: A manganese silicate from the Hôkô Mine, Prov. Alci. *Jour. Geol. Soc. Tokyo*, **34**, 52–8, 1927 (Japanese); Abstract in *Jap. Jour. Geol. and Geogr.*, **5**, No. 4, p. 19, 1927.

The mineral occurs with psilomelane and rhodochrosite forming a bedded deposit in a Palaeozoic hornstone. The mineral is subtranslucent, resinous to vitreous in luster, and is black or dark brown in color. Streak: brownish black. On exposure to the sunlight the color changes to black. Hardness: 3.5. Sp gr.: 3.354. Microscopically, it is light brown, optically isotropic, and contains fine dust of quartz. The chemical analysis of the mineral gave the result: SiO_2 20.61, Fe_2O_3 1.65, MnO 46.56, Mn_2O_3 18.89, Cu 0.14, Al_2O_3 2.09, CaO 1.07, MgO 1.63, H_2O 4.00, H_2O (110°) 5.89. This corresponds to $SiO_2 \cdot (MnO \cdot Mn_2O_3) \cdot H_2O$.

DISCUSSION: Probably an altered rhodonite, braunite or tephroite.

J. F. S.

BODENBENDERITE

E. RIMANN: Bodenbenderite, a new mineral from Argentina. *Sitzungsber. Abhandl. Naturwiss. Gesell. Isis, Dresden*, **1928**. Festschrift für Richard Baldauf, pp. 42–51.

NAME: In honor of Prof. Wilhelm Bodenbender (1857–), of Cordoba, Argentina.

CHEMICAL PROPERTIES: Analysis after deducting 16.7% impurities gave: SiO_2 21.02, TiO_2 8.74, Al_2O_3 10.16, (Yt, Er)$_2O_3$ 15.59, MnO 40.49, CaO 2.48. Rest U_3O_8, Fe_2O_3, FeO, MgO, giving the formula $4RO \cdot R_2O_3 \cdot 3RO_2$ or $(Mn, Ca)_4 Al\,[(Al, Yt)O]\,[(Si, Ti)O_4]_3$. By means of HCl the mineral was separated into a soluble and insoluble portion. The soluble component (62%) has the compn. of water-free plazolite ($3RO \cdot R_2O_3 \cdot 2RO_2$) and the insoluble component that of the triple vesuvianite molecule ($6RO \cdot R_2O_3 \cdot 6RO_2$). Bodenbenderite = plaz. 62%, vesuv. 38.

PHYSICAL PROPERTIES: Color flesh red. Vitreous luster. $n > 1.77$. Gr. = 3.3–3.5. H. = 6–6.5. The mineral fuses to a black slaggy glass.

OCCURRENCE: Found in pneumatolytic veins near granite in the Sierra Chica, Sierra de Cordoba, Argentina, with fluorite, peninine, muscovite, helvite, garnet, beryl, epidote and vesuvianite.

DISCUSSION: Data unsatisfactory. J. F. S.