NEW MINERALS

Spencerite

T. L. WALKER, of the University of Toronto; *Spencerite, a new zinc phosphate from British Columbia; Nature,* **97,** 374, 1916; abstracted in *Am. Min.,* **1,** (3), 48, 1916; *Mineralog. Mag.,* **18,** (83), 76–81, 1916.

NAME: After Mr. L. J. Spencer, of the Mineral Dept. of the British Museum (Natural History).

PHYSICAL PROPERTIES

Color: white. Luster: pearly, occasionally vitreous. Form: lamellar masses, radiating and reticulated crystals with eroded ends. H.=3. Sp. Gr.= 3.145. Powdered mineral fuses readily at a moderate red heat.

CRYSTALLOGRAPHIC AND OPTICAL PROPERTIES

Probably monoclinic. Cleavage: 100, very perfect, 010 and 001, slightly less so. β_{na} = about 1.6092. $2H_y = 46°26'$ ∴ $2E_y = 81°34'$; $2V_y = 47°54'$. Optically −. $Bx_{ac} \perp 100$. Birefringence low. Dispersion $\rho > v$. Thin sections show polysynthetic twinning with an extinction angle of about 6°, composition face 100.

CHEMICAL PROPERTIES

Composition: $Zn_3(PO_4)_2 . Zn(OH)_2 . 3H_2O$.

	I.	II.	III.	IV.	Theory.
ZnO	60.18	60.18	60.05	60.39	60.32
P_2O_5	26.14	26.23	26.74	26.13	26.32
H_2O at 160°	9.79	9.83	13.70	13.44	10.02
H_2O above 200°	3.53	3.47			3.34
MnO	—	—	0.41	—	—
SiO_2	—	—	0.40	—	—
	99.64	99.71	101.30	99.96	

Analyses I and II by Walker, III by E. W. Widdowson, IV by Phillips.[1]

Readily soluble in acids; on adding ammonia to the acid solution a heavy white precipitate forms and dissolves in excess of the reagent thus resembling the other zinc phosphates. In the closed tube the mineral decrepitates and yields water in abundance. While hot the mineral is yellow, becoming white on cooling, thus indicating the presence of a basic salt of zinc.

Occurs as the central portions of stalactites of hemimorphite (calamine) at the Hudson Bay zinc mine about 5 miles east of Salmo, near Nelson in the West Kootenay district of British Columbia. (Spencerite is evidently a weathering product of hydrothermal deposits.) S. G. G.

Radio-strontium, a so-called new mineral.—In several "popular science" publications notices have recently appeared of the pretended discovery in North Carolina of "a new mineral, radio-strontium," which is alleged to possess medicinal value. We have been informed on competent authority that the material so named is a sort of luminous paint. This has a decided advantage over other quack remedies in that it can be used to paint keyholes, to aid in their location during the early hours of the morning. It seems hardly necessary to state, however, that it is not in any sense a new mineral.

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[1] *Am. J. Sci.,* [4], **42,** (3), 275–278, 1916.

Crandallite

G. F. Loughlin and W. T. Schaller, of the U. S. Geol. Survey. *Crandallite, a new mineral. Am. J. Sci.*, [4], **43**, (1), 69–74, 1917.

Name: After M. L. Crandall, mining engineer, Provo, Utah.

PHYSICAL PROPERTIES

Color: white to light gray, with shadings into yellow and brown. Streak: white. Luster: dull, somewhat greasy in the compact variety, and somewhat pearly in the coarser lamellas; almost opaque. Form: compact to cleavable masses. Under the microscope these are seen to be aggregates of extremely fine fibers, generally in radiating groups. From this it is believed that crandallite is a fibrous mineral resulting from the alteration of some mineral similar in composition (goyazite?) with a platy structure and smooth cleavage surface. H.=4.

OPTICAL PROPERTIES

Under the microscope pure crandallite is colorless and non-pleochroic. Indices of refraction: minimum, 1.585; maximum, 1.595. Birefringence, 0–0.01. Fibers apparently have parallel extinction, and the elongation is negative. Some poorly defined hexagonal plates are isotropic, uniaxial, postive, and on edge give parallel extinction, and a moderate birefringence (0.01–0.02); $n=1.605$ to 1.62. Some of the plates are uniform in structure and isotropic; others show a concentric, radiating, fibrous structure.

CHEMICAL PROPERTIES

Composition: $CaO.2Al_2O_3.P_2O_5.5H_2O$; with slight replacement of CaO by SrO and MgO, and P_2O_5 by SO_3.

Analysis by Schaller gave: insol. 35.13, Al_2O_3 25.16, CaO 4.88, SrO 1.44, MgO 0.61, P_2O_5 17.61, SO_3 2.47, H_2O- 0.84, H_2O 12.26, sum 100.40. Insol.= SiO_2 with a little barite, and traces of sulfides.

B. B. crandallite decrepitates somewhat, then exfoliates slightly and fuses to an opaque white enamel, coloring the flame intermittently a pale green (P) with occasional flashes of red (Ca and Sr). In the closed tube decrepitation occurs with liberation of H_2O. Soluble in acids.

Crandallite was found on the dumps of the Brooklyn mine, one and a half miles east of Silver City, in irregular shaped cavities of a quartz barite ore aggregate, associated with pyrite, enargite, galena and sphalerite, and to a minor extent replacing them. It occurs covered with a thin crust of tenorite.

S. G. G.

EXCHANGE NOTICES

Louis Reamer, Box 175, Short Hills, N. J. Western and New Jersey minerals, including babingtonite, laumontite, *stevensite*, gypsum pseudomorphs, chiastolite, franklinite crystals, gmelinite, covellite, etc. Send list of what you have.

A. J. Rice, 1041 Wood St., Easton, Pa. Minerals from the famous Easton serpentine quarries.