BOOK REVIEW

MINERAL RESOURCES OF MINNESOTA, Bulletin **30**, 1943, University of Minnesota and the Minnesota Geological Survey. Edited by WILLIAM H. EMMONS and FRANK F. GROUT. Sections prepared by Frank F. Grout, John W. Gruner, George M. Schwartz, Clinton R. Stauffer, and George A. Thiel.

The above bulletin contains 149 pages and 25 figures. It is a résumé of the mineral resources of Minnesota, and is introduced by a brief discussion of the physiography and general geology of the State in order to furnish a background for a discussion of the mineral deposits. Since iron ore is Minnesota's most important mineral resource it receives the most attention. Not only is the geology of the iron deposits outlined, but the problems resulting from the exhaustion of the high-grade ore in the next 30 or 40 years, and the utilization of the low-grade ores are discussed.

The other mineral resources reviewed, in approximately their order of importance, are building stones, sand and gravel, clays and shales, limestones and marls, broken and crushed rock other than limestone, peat, miscellaneous non-metallic minerals including water resources, and miscellaneous deposits of metals.

An appendix includes minerals of interest to collectors, a list of minerals of Minnesota, a list of publications of the Geological Survey of Minnesota, and a selected list of other papers on the mineral resources of the state.

The bulletin is prepared so as to be especially helpful to those who are developing and producing the mineral resources of the State, and to those engaged in their conservation and political economics.

A. J. EARDLEY, *University of Michigan*

NEW MINERAL NAMES

Hydrogrossular

C. OSBORNE HUTTON: Hydrogrossular, a new mineral of the garnet-hydrogarnet series. *Trans. Proc. Royal Soc. New Zealand*, **73**, 714–180 (1943).

The name hydrogrossular is proposed for all of the isomorphous mixtures between hibschite ($3CaO \cdot Al_2O_3 \cdot 2SiO_2 \cdot 2H_2O$) and grossularite. An analysis is given of such material with $n = 1.7021$ and G. = 3.35, separated from rodingite rock, Dun Mt. Optical data and gravity determinations are given for other occurrences.

DISCUSSION. The series $3CaO \cdot Al_2O_3 \cdot 3SiO_2$–$3CaO \cdot Al_2O_3 \cdot 6H_2O$ has been prepared, but no natural material has yet been reported more hydrous than hibschite. It seems likely that many "grossularites" will be found to be actually hydrous minerals of this series. There are too many names already for the series—hibschite,plazolite, hydrogarnet, garnetoid, grossularoid and hydrogrossular. Hibschite has priority over plazolite and the latter name should be dropped. Hydrogarnet and grossularoid are ambiguous terms. Garnetoid is a term including minerals other than those of this series.

MICHAEL FLEISCHER

Alpha-vredenburgite, beta-vredenburgite

BRIAN MASON: Alpha-vredenburgite. *Geol. För. Förh.* (Stockholm) **65**, 263–270 (1943).

Vredenburgite was redefined in a previous paper (see *Am. Mineral*, **29**, 73–74 (1944) as intergrowths of cubic and tetragonal $(Mn, Fe)_3O_4$ in the composition range 54–91% Mn_3O_4. The present paper describes homogeneous tetragonal $(Mn, Fe)_3O_4$ from Långban, Sweden, containing 65–76% Mn_3O_4, probably formed by the reduction of bixbyite at low

temperatures. It is suggested that this homogeneous material be called alpha-vredenburgite and the mixture of cubic and tetragonal $(Mn, Fe)_3O_4$ be called beta-vredenburgite.

DISCUSSION: The proposed nomenclature is likely to cause confusion. It would be simpler to refer to the homogeneous tetragonal mineral as iron-bearing hausmannite and to restrict the term vredenburgite to the mixture, as in the earlier paper.

M. F.

Endellite

L. T. ALEXANDER, G. T. FAUST, S. B. HENDRICKS, H. INSLEY AND H. F. MCMURDIE. *Am. Mineral.* **28,** 1–18 (1943).

Gamagarite

J. E. DEVILLIERS. *Am. Mineral,* **28,** 329–335 (1943).

Partridgeite

J. E. DEVILLIERS. *Am. Mineral.*, **28,** 336–338 (1943).

Sillenite

CLIFFORD FRONDEL. *Am. Mineral.*, **28,** 521–535 (1943).

Beyerite

CLIFFORD FRONDEL. *Am. Mineral.*, **28,** 521–535 (1943).

REDEFINITION OF SPECIES

Parkerite

C. E. MICHENER AND M. A. PEACOCK. *Am. Mineral.*, **28,** 343–355 (1943).

Bismite

CLIFFORD FRONDEL. *Am. Mineral.*, **28,** 521–535 (1943).

NOTICE TO USERS OF G.S.A. MEMOIR 8

Available on request at the G.S.A. headquarters is a copy of Plate 9 for Memoir 8 on a reduced scale to fit Plate 12. It was the original intention to reproduce Plate 12 with new data on the scale of Plate 9 but current conditions prevented. The new Plate 9 is offered for temporary use until the new data for Plate 12 are made available.

Frank C. Schrader, retired member of the U. S. Geological Survey, died April 16, at the age of eighty-three.

George Steiger who joined the U. S. Geological Survey in 1892 and was chief chemist from 1916 to 1930, died April 18. He was seventy-four years old.

Dr. Roger Clark Wells who succeeded Mr. Steiger as chief chemist of the U. S. Geological Survey in 1930, died April 19, at the age of sixty-six.

Due to increased demands on his time in connection with departmental matters, Professor Paul F. Kerr has found it necessary to resign as Secretary of The Mineralogical Society of America, a position he has held since 1934. The Council has selected Professor C. S. Hurlbut, Jr., of Harvard University to serve as Secretary. As in the past the annual election of all officers of the Society for 1945 will be held in December.