Mr. Frankenfield reported drusy quartz, talc, and deweylite from Newtown Square.

Mr. Trudell reported (exhibiting lantern slides) the results of the society's trip to Vanartsdalen's quarry, attended by Messrs. Hagey, Benge, Gordon, Knabe, Warford, and Trudell. Graphite, blue quartz, blue microcline, wollastonite, wernerite, zircon, titanite, phlogopite, chondrodite, and stilbite were found.

SAMUEL G. GORDON, *Secretary.*

NEW MINERALS

FERRIERITE

R. P. D. Graham: Ferrierite, a new zeolitic mineral from British Columbia, with notes on some other Canadian minerals. *Trans. Royal Soc. Canada* [3], **12**, 185–201, 1918.

NAME: After the discoverer, Dr. W. F. Ferrier.

CRYSTALLOGRAPHIC PROPERTIES

System: Orthorhombic; habit: radiated groups of very thin blades, tabular on *a* (100) and elongated on the *c*-axis; forms: *a* (100), *b* (010), and *d* (101), with $a : d$ = approx. 67° 47′.

PHYSICAL PROPERTIES

Color: colorless to white; luster: vitreous to pearly; cleavage: perfect on *a* (100); H. = 3 – 3½; sp. gr. = 2.150.

OPTICAL PROPERTIES

Biaxial; refractive indices: $\alpha = 1.478$, $\beta = 1.479$, $\gamma = 1.482$, $\gamma - \alpha = 0.004$; $2V = 50° 25'$; sign +; orientation: axial plane in direction of elongation of blades and obtuse bisectrix normal to the blades (*a*-axis).

CHEMICAL PROPERTIES

SiO_2 69.13, Al_2O_3 11.44, CaO none, MgO 2.92, Na_2O 3.97, K_2O 0.36, H_2O 13.05, sum 100.87 per cent. This yields the ratios: $SiO_2 : Al_2O_3 : MgO : Na_2O : H_2O = 10 : 1 : 0.6 : 0.6 : 6.5$. The mineral is thus related to mordenite and ptilolite, but is remarkable in containing magnesium in place of calcium, differing thus from all other known zeolites. The water begins to come off below 100° and is then given off gradually tho not quite continuously; to bring the formula into accord with that of the related minerals, 1.35 per cent. of this water is regarded as basic, giving $R_2Al_2(Si_2O_5)_5 \cdot 6H_2O$.

OCCURRENCE

Found in a cut of the Canadian Northern Railway west of Mile Post 17, on the north shore of Kamloops Lake, B. C. Occurs intimately associated with chalcedony in seams in basalt; often covered by subsequent calcite.

E. T. W.

ABSTRACTS OF MINERALOGIC LITERATURE

FERRIERITE, A NEW ZEOLITIC MINERAL FROM BRITISH COLUMBIA, WITH NOTES ON SOME OTHER CANADIAN MINERALS. R. P. D. Graham. *Trans. Royal Soc. Canada* [3], **12**, 185–201, 1918.

In addition to ferrierite, the description of which is given above, this paper includes accounts of small phenacite crystals, the first occurrence of this mineral in Canada; a pseudomorph of bismuthinite after molybdenite, attached to an unchanged crystal of the latter; a crystal of albite showing the new forms R ($3\bar{9}1$), Q ($32\bar{1}$) and S ($23\bar{1}$); an occurrence of thaumasite from the Corporation Quarry, Montreal, with analysis; and a peculiar clay, identified by analysis as saponite, from a railroad tunnel, Montreal. E. T. W.

ALGODONITE AND WHITNEYITE. L. H. BORGSTRÖM. *Geol. för. Förh.*, **38**, 95–100, 1916; thru *J. Chem. Soc.*, **114**, ii, 169–170, 1918.

Metallographic study of these supposed minerals both before and after fusion showed algodonite to be practically homogeneous, while "whitneyite" contains admixed metallic copper. Both are decomposed before fusion, but cooling curves of the fused materials show pronounced breaks at 688°, corresponding to the eutectic Cu_3As-Cu. It is concluded that algodonite is a definite mineral, but whitneyite is not. [MURDOCH, *Micr. detn. opaque minerals*, 1917, came to the opposite conclusion, but he did not make adequate chemical study of his materials, so Borgström's results should be provisionally accepted. ABSTR.] E. T. W.

THE DETERMINATION OF THE SPECIFIC GRAVITY OF MINERAL FRAGMENTS BY HEAVY LIQUIDS. R. P. D. GRAHAM. *Trans. Royal Soc. Canada*, **11** (III), 51–53, 1917.

A convenient method of determining specific gravities is described, according to which a buret containing benzene is introduced thru the stopper of a large test tube containing methylene iodide. Minerals of standard specific gravities are introduced along with the unknown, and benzene allowed to run in, the amounts being observed when each standard and unknown mineral just float. The buret readings are plotted against the known gravities of the standards and that of the unknown found from the point at which its buret reading cuts the curve. E. T. W.

RADIOACTIVE MINERALS IN BAVARIA. II. F. HENRICH. *J. prakt. Chem.*, **96**, 73–85, 1917; thru *J. Chem. Soc.*, **114**, ii, 96, 1918.

To test whether the dark blue fluorite from Woelsenberg owes its color and odor to radioactivity, colorless fluorite was exposed to radium. A blue color was actually produced, and the mineral then showed green thermoluminescence; but there was no development of odor. The odor of the natural mineral is believed to be due to free fluorine. Analysis of torbernite from Leopoldsdorf indicated its formula to be $Cu(UO_2)_2(PO_4)_2.11.5H_2O$. E. T. W.

XANTHOSIDERITE FROM SCHENDLEGG, LOWER AUSTRIA; FORMATION OF BOTRYOIDAL LIMONITE. H. LEITMEIER AND M. GOLDSCHLAG. *Centr. Min. Geol.*, **1917**, 473–477; thru *J. Chem. Soc.*, **114**, ii, 118–119, 1918.

A colloidal precipitate of iron hydroxide in the Schendlegg mine was found to have the composition of xanthosiderite. [Given as $Fe_2O_3.2H_2O$, but the definiteness of the compound is not established. Abstractor.] After keeping for 2 years it acquired a blackish brown color and superficial metallic luster

without change in composition, and under the microscope was found to be crystalline. Brown "glaskopf" (botryoidal limonite) had thus formed.

E. T. W.

THE DISPERSION OF THE OPTIC AXIAL ANGLE OF MONOCLINIC FELDSPARS. S. Kôzu. *Bull. soc. franc. min.*, **40**, 36, 1917; *J. Geol. Soc. Tokyo*, **25** (300), 31–37, 1918. Abstr. reprinted by permission from *Chem. Abstr.*, **13** (1), 19, 1919.

An equation is presented for determining the dispersion formula of the optic axial angle in monoclinic feldspars when V is large. The refractive indices computed from this formula are compared with the observed values, determined by the total-reflectometer. S. G. G.

TEAR-FIGURES ON CERTAIN MINERALS. Mikio Kuhara. *Mem. Coll. Eng. Kyoto Imp. Univ.*, **1**, 267–274, 279–286, 1917; thru *Chem. Abstr.*, **13** (1), 19, 1919.

Percussion figures on stibnite, galena, sphalerite, pyrite, vivianite, enargite, calcite, gypsum, and barite are described. E. T. W.

RADIATION PATTERN OF THE TRANSFORMATION OF MAGNESIUM HYDROXIDE TO MAGNESIUM OXIDE; SERPENTINE, MALACHITE AND PSEUDOMORPHOUS QUARTZ; BULTFONTEIN APOPHYLLITE; DIAMOND TESTS BY RADIATION PATTERNS; DIFFRACTION FROM THE EDGES OF A SQUARE PLATE OF IODINE. J. S. v. d. Lingen. *Trans. Royal Soc. S. Africa*, **7** (1), 59–63, 1918.

A study of the space-lattices of these substances by X-rays. It was possible to trace the changes produced by the dehydration of brucite; to show that the pattern of fibrous serpentine has greater symmetry than triclinic; to show that the minute crystals of quartz pseudomorphous after crocidolite have a definite orientation; to show that in some diamonds the structure is perfect, even tho they are twinned, while others show ruptured lattices; and to produce diffraction by iodine crystals. S. G. G.

KIMBERLEY DIAMONDS, ESPECIALLY CLEAVAGE DIAMONDS. J. R. Sutton. *Trans. Royal Soc. S. Africa*, **7**, 65–76, 1918; abstract reprinted by permission from *Chem. Abstr.*, **13** (1), 20, 1919.

A detailed description of the physical properties of the diamonds from the several S. African localities. The stones in any one pipe are remarkably uniform, but from one to another pipe they differ markedly in quality, size, crystallization, surface, color, general appearance, texture, and tone. In addition to the gem diamonds, bort and "stewartite" also occur; the latter being a bort high in iron which is steel-gray, fibrous, equal in hardness to diamond, but lower in specific gravity (about 3.45), and also showing magnetic polarity. The explosive fracturing of diamonds is believed to be connected with the presence of inclusions having greater coefficients of expansion. Trade terms are discussed, and it is pointed out that "cleavages" includes not only broken fragments, but also misshapen stones that require cleaving before cutting. Statistics of production are included. S. G. G.