MINERALOGICAL SOCIETY (LONDON)

A meeting of the Society was held on Thursday, June 12th, 1952, at 5 P.M., in the apartments of the Geological Society of London, Burlington House, Piccadilly, W.1 (by kind permission).

EXHIBIT

Latiumite (a sulphatic calcium potassium aluminium silicate), a new mineral from Albano, Italy: by Prof. C. E. Tilley and Dr. N. F. M. Henry.

PAPERS

The following papers were read:

(1) THE MINERALOGY OF THE ANTIMONY OXIDES AND ANTIMONATES.

By Dr. Brian Mason and Dr. Charles J. Vitaliano.

Apart from the polymorphs of Sb_2O_3, these minerals fall into two structural groups, a cubic group with the pyrochlore structures and a tetragonal group with the trirutile structure. When the antimony is associated with large cations the pyrochlore structure is stable; with smaller cations the trirutile structure is the stable form. Defect lattices are usual in these minerals, resulting in great variability of chemical composition and in physical and optical properties within the individual species.

(2) THE UNIT CELL AND SPACE GROUP OF ALAMOSITE ($PbSiO_3$).

By Dr. A. L. Mackay.

Alamosite was found to have a unit cell of space-group $P2/c$ with dimensions $a=11.28$, $b=7.03$, $c=13.06$ Å, and $\beta=120°$. $Z=12$. It is not isomorphous with monoclinic wollastonite as might appear from its morphology.

(3) A RE-EXAMINATION OF TOBERMORITE.

By Dr. G. F. Claringbull and Dr. M. H. Hey.

Type specimens of tobermorite have been examined by x-ray methods and shown to be a valid independent species identical with calcium silicate hydrate (I). A new chemical analysis is in close agreement with Heddle's.

(4) RIVERSIDEITE AND CRESTMOREITE: MINERALOGICAL AND CHEMICAL COMPOSITION.

By Dr. H. F. W. Taylor.

Neither of the substances until now characterized by their optical properties and x-ray data as riversideite ($CaO.SiO_2.\frac{1}{2}H_2O$) or crestmoreite ($CaO.SiO_2.H_2O$) is a true mineral species. The former consists of wilkeite closely intergrown with calcium silicate hydrate (I). Two crestmoreite samples consisted chiefly of hydroxyapatite, with only small amounts of silicate minerals. No evidence was obtained for the presence of a distinctive hydrated calcium silicate in either sample, although it appears that some other samples of crestmoreite may be identical with the riversideite studied here.

(5) AN IMPROVED POLARIZING MICROSCOPE. V. THE ORE MICROSCOPE.

By Dr. A. F. Hallimond and Mr. E. Wilfred Taylor.

A robust stand is provided with a stage rack and attachable substage for transmitted light work. A new system for obtaining homogeneous polarization over the whole aperture of the objective gives very complete extinction and has improved the sensitivity for small path differences (ellipticity). Since the whole of the back of the objective is equally effective there is considerable improvement in the ease of adjusting the illumination.

(6) NINETEENTH LIST OF NEW MINERAL NAMES.

By Dr. L. J. Spencer.

The following papers were taken as read:—

(1) MANGANESE-IRON GARNET FROM OTJOSONDU, SOUTH-WEST AFRICA.

By Mr. F. H. S. Vermaas.

Two garnets rich in iron and manganese from the manganese field of Otjosondu, S.W.A., are described mineralogically. They contain 54 and 35 per cent calderite by weight with $a=11.819$ and $a=12.000$ Å resp. Refractive indices (n_D) 1.872 and 1.901 resp., specific gravities 4.08 and 3.96, resp. Calculated specific gravities from *x*-ray data agree very well with experimental values. The presence of excess atoms in the unit cell of one of these garnets is discussed. The specific gravity of pure calderite is calculated.

(2) NACRITE FROM GROBY, LEICESTERSHIRE.

By Dr. G. F. Claringbull.

X-ray powder photographs show that a white mineral associated with quartz veins in syenite in the shatter zone of the main fault of Sheet Hedges Wood quarry, Groby, Leicestershire, is nacrite. This is believed to be the first British record of the mineral.

(3) A NEW OCCURRENCE OF NACRITE FROM HIRVIVAARA, NORTHERN KARELIA, FINLAND

By Mr. O. von Knorring, Dr. G. W. Brindley and Mr. K. Hunter.

Single crystal and powder analyses prove conclusively that the kaolin mineral from Hirvivaara, Finland, is nacrite: the six-layer structure discovered by Hendricks is confirmed. The powder diagram is resolved in somewhat greater detail than has previously been recorded. The lattice parameters are $a=8.91$, $b=5.14$, $c=7.16$ kX. Hendrick's value for β has not been modified (β 90° 20′).

(4) THE TRACHY-OPHITIC TEXTURE IN CARBONIFEROUS BASALTS.

By Dr. R. B. Elliott.

In the Langholm district of Dumfries there is an intrusion of olivine basalt of Jedburgh type in which flow-aligned felspars are enclosed in augite plates. The felspars are Ab_{42}—An_{58}, the augite is Fe 20, Ca 44, Mg 36. The enclosure of euhedral and oriented felspars within augite indicates that the latter mineral formed after the formation of felspar laths and after the production of the flow-structure. The sequence of events indicated is as follows: the formation of the felspar laths, the production of the flow structure and the crystallization of the augite. It is felt that this texture, which has also been recorded elsewhere, deserves a precise name and "trachy-ophitic" is proposed.

(5) KALSILITE FROM SAN VENANZO, ITALY.

By Dr. F. A. Bannister, Prof. Th. G. Sahama, with
chemical analyses by Mr. H. B. Wiik.

Presents new optical, chemical and *x*-ray diffraction data for kalsilite and leucite from a potash-rich lava.

(6) SYNTHETIC SODA-FREE AND GALLIUM-BEARING THOMSONITES.

By Mr. J. R. Goldsmith.

Artificial preparations of sodium-free thomsonite, one gallium bearing, crystallized at 245° C. give the same *x*-ray powder pattern as thomsonite from Table Mt., Colorado.