

The pamphlet describes in non-technical language some of the industrial applications of x-rays in examining the internal construction of opaque materials. The manner in which the x-rays are produced, the apparatus required, and rules for the proper exposure and manipulation of radiographic films are some of the points that are briefly discussed. A bibliography consisting of three books and twenty-four articles has been appended for those desiring further information. The Eastman Kodak Co. will mail this pamphlet to any interested party on request.

The first of a contemplated series of reports which will contain abstracts of current articles dealing with applied geophysics has been issued by the U. S. Bureau of Mines, Dept. of Commerce. The Bureau plans to secure the original papers from which these abstracts are prepared and to assist interested parties by furnishing translations or photostat copies. Circular No. 6120 contains abstracts of papers relating to gravitational, magnetic, seismic, electrical, geothermal and radioactive subjects.

PROCEEDINGS OF SOCIETIES

NEW YORK MINERALOGICAL CLUB

Minutes of the May Meeting

A regular monthly meeting of the New York Mineralogical Club was called to order by President Herbert P. Whitlock at the American Museum of Natural History on the evening of May 15, 1929.

Mr. Charles Pasewark of New York City was elected to membership.

A mineralogical trip on Memorial Day, May 30th, to the quarries at Bedford, N. Y., was decided upon.

The address of the evening, on "*The Geology of South Africa and the Diamond-Bearing Formations*," by Dr. George I. Finlay of New York University, was then presented. The general geology of South Africa was first described, and then the characteristics of the diamond-bearing kimberlite pipes. The mineralogical composition of the kimberlite and the various theories which have been advanced to account for the origin of the diamonds were discussed at some length.

Mr. Broadwell exhibited a specimen from Franklin Furnace, N. J., containing ten different minerals, two of which may prove to be new.

After a vote of thanks to Dr. Finlay the meeting adjourned.

GEORGE E. ASHLY, *Secretary Pro-Tem.*

NEW MINERAL NAMES

LARNITE

C. E. TILLEY: On larnite (calcium orthosilicate, a new mineral) and its associated minerals from the limestone contact-zone of Scawt Hill, Co. Antrim. *Mineralog. Mag.*, 22, 77-86, 1929.

NAME: From the name of the locality, Larne, in Co. Antrim, in the vicinity of which the mineral occurs.

CHEMICAL PROPERTIES: Calcium orthosilicate, Ca_2SiO_4 or $2\text{CaO} \cdot \text{SiO}_2$. Larnite is attacked slowly by water with production of $\text{Ca}(\text{OH})_2$, the solution turning red

litmus blue. It is decomposed readily by dilute acid without effervescence, but with gelatinization. An analysis of larnite containing very small amounts of spurrite ($2\text{Ca}_2\text{SiO}_4 \cdot \text{CaCO}_3$) gave: SiO_2 31.00, Al_2O_3 1.12, Fe_2O_3 trace, FeO 0.64, MgO 0.69, CaO 64.98, CO_2 0.82, H_2O at 105°C . 0.61; total 99.86. The CO_2 is present as spurrite and the Al_2O_3 , FeO and MgO as finely divided spinel.

PHYSICAL AND OPTICAL PROPERTIES: Color gray. Grains show one good cleavage and an imperfect cleavage 90° thereto. Most characteristic feature is exceedingly fine polysynthetic twinning parallel to the prominent cleavage. Less commonly a second set of twin-lamellae is developed at right angles to the first set. Optically +, with a moderately large optic axial angle; $\alpha=1.707$, $\beta=1.715$, $\gamma=1.730$. Sections cut perpendicular to the acute bisectrix (γ) show a symmetrical extinction of the adjacent lamellae of the very fine polysynthetic twins, the orientation being α :twin-line= $13-14^\circ$. In sections cut perpendicular to the obtuse bisectrix the mineral has straight extinction with reference to the cleavage, and no twin structure is visible. These properties are those of a monoclinic mineral where $\gamma=b$. Larnite falls to a powder on heating and cooling or if it is subjected to shock. The γ - Ca_2SiO_4 or low temperature form of calcium orthosilicate is produced by this "dusting" and has much lower indices of refraction. A similar phenomenon takes place with Ca_2SiO_4 prepared synthetically at high temperatures and is the cause of the "dusting" of cement.

OCCURRENCE: Larnite is found in the contact zone of chalk and Tertiary dolerite at Scawt Hill, near Larne, Co. Antrim. It occurs with calcite, spurrite, melilite (gehlenite), merwinite, spinel, perovskite and wollastonite.

The chief assemblages of the contact-zone are:

- (a) spurrite
- (b) spurrite-larnite
- (c) spurrite-larnite-melilite
- (d) spurrite-melilite-merwinite-spinel-larnite

all with calcite.

DISCUSSION: May be accepted as a mineral species. Tilley in a footnote says: "The Tasmanian mineral recorded as calcium orthosilicate by F. P. Paul (*Tsch. Min. Petr. Mitt.*, 25, 309, 1906) and named shannonite (C. E. Tilley, *Geol. Mag.*, 64, 144, 1927) on the basis of Paul's data, has since been shown to be monticellite (C. E. Tilley, *Geol. Mag.*, 65, 29, 1928). Rather than transfer the name 'shannonite' to the new mineral now described, any further confusion will be avoided by adopting a new name."

J. F. SCHAIRER

COOPERITE

R. A. COOPER: A new platinum mineral in the Rustenburg norites. *J. Chem. Met. Mining Soc., S. Africa*, 28, 281-3, 1928.

F. WARTENWEILER: Discussion appended to the above paper page 283. In this discussion Wartenweiler suggests the tentative name of cooperite for the mineral.

NAME: Tentative suggestion of the name cooperite after R. A. Cooper who described the mineral.

CHEMICAL PROPERTIES: Material obtained from gravity concentration of 1 1/2 tons of ore from Rustenburg district, Transvaal, indicates a sulpharsenide of plati-

num of the composition Pt 64.2, Pd 9.4, S 17.7, As 7.7; total 99%. The Pt, S and As together conform to the formula Pt (S, As)₂. Cooper believes that "the majority of the palladium exists independently of the platinum" and its presence is due to the difficulty of making a clean separation. The material is so nearly insoluble in aqua regia after many hours of treatment that only traces of Pt were found in solution. A specimen of a platinum sulfarsenide from the Onverwacht dunite deposit gave Pt 59.3, S 3.7, As 36.9; total 99.9%. Cooper says: "this materia. approximates much more closely to normal sperrylite, but is nevertheless distinct."

PHYSICAL PROPERTIES: Color a grayish steely color. Irregular fragments or very complex crystal forms with occasional elongated rectangular rods.

OCCURRENCE: Found as disseminated grains in the platiniferous norites of the Rustenburg district of the Transvaal. Needs much further study.

J. F. SCHAIRER

TANTEUXENITE

E. S. SIMPSON: Contributions to the mineralogy of Western Australia, Series 3 *J. Roy. Soc. Western Australia*, 14, 45-56, 1928.

NAME: From its chemical compn. A euxenite with tantalum replacing columbium (niobium).

CHEMICAL PROPERTIES: It is essentially a titanotantalate of yttrium, Yt₂TaO₈, with probably CaTiTa₂O₈ and Yt₂Ta₂O₈. Three analyses given.

PHYSICAL PROPERTIES: Color brownish black. Subconchoidal fracture and resinous lustre. H.=5-6. Thin splinters are amber-yellow and optically isotropic. Indistinct crystals are tabular and orthorhombic. Specific gravity is higher than euxenite. Gr.=5.4-5.9.

OCCURRENCE: Derived from pegmatite at the Pilbara goldfield, N. W. Div. Found at Cooglegong and Woodstock.

J. F. SCHAIRER