

## PHILADELPHIA MINERALOGICAL SOCIETY

*Academy of Natural Sciences, February 14, 1924*

A stated meeting of the Philadelphia Mineralogical Society was held on the above date with the president, Mr. Vaux, in the chair. Seventeen members and three visitors were present.

Mr. Charles W. Hoadley addressed the Society on "*Mineral Collecting in New Jersey*." A hypothetical auto trip starting from Philadelphia and including the principal localities was described, with data regarding the minerals, their association, and mode of occurrence. Of chief interest were the Bergen Hill localities, Paterson, Franklin, and Moore Station. The talk was illustrated with numerous maps, photographs, lantern slides, and specimens.

Mr. Trudell described a visit with Mr. Gordon to view Col. Roebing's collection. He described a large section of a topaz crystal measuring over three decimeters across, and two beautifully twinned chrysoberyls from Brazil, lately acquired by the Colonel.

SAMUEL G. GORDON, *Secretary*.

## NEW MINERALS: NEW SPECIES

CLASS: HALIDES. SUB-CLASS: HYDROXYHALIDES. DIVISION.

R<sup>+</sup>:CL:O:OH=4:2:2:2.

**Chloroxiphite.**

L. J. SPENCER and E. D. MOUNTAIN: New lead-copper minerals from the Mendip Hills, Somerset. *Min. Mag.*, 20, (102) 67-92, (1923); this mineral pp. 75-77.

NAME: From the Greek *chloros*, green, and *xiphos*, a blade or straight sword, may be pronounced either chloro-ziphite or chloroxi-phite, the latter suggesting the composition (an oxychloride).

CHEMICAL PROPERTIES: *Formula*, 2PbO.Pb(OH)<sub>2</sub>.CuCl<sub>2</sub> or CuPb<sub>2</sub>Cl<sub>2</sub>(OH)<sub>2</sub>O<sub>2</sub>. Theory Pb 75.6, Cu 7.7, Cl<sub>2</sub> 8.6, O 5.9, H<sub>2</sub>O 2.2, sum 100.0%. Analyses by E.D.M. gave Pb 75.34, 74.10, Cu 8.71, 8.37, Cl<sub>2</sub> 7.19, 8.97, O 6.38, 5.79, H<sub>2</sub>O 2.56, 2.52, sums 100.18, 99.75%. Methods of analysis are given. No H<sub>2</sub>O is lost at 110°, but all escapes below 250°. On soln. in HNO<sub>3</sub> the Cu dissolves first, then the Pb slowly. The constituents were weighed as AgCl, PbSO<sub>4</sub> and CuO.

Qualitatively gives the usual reactions for the constituents. In closed tube decrepitates, gives off PbCl<sub>2</sub> fumes, and melts to brown liquid which becomes green and glassy on cooling.

CRYSTALLOGRAPHIC PROPERTIES: *System*, monoclinic, with angle  $\beta$  near 63°; elongated on axis *b*. Habit thin blades up to 3×1 cm.×1 mm. Cleavage perfect on *c*, less so on *a*. Resembles epidote in crystallography and color.

OPTICAL PROPERTIES: Refractive indices and birefringence both high. Biaxial, negative, with axial angle in oil 80°; plane of optic axes perpendicular to plane of symmetry and acute bisectrix near axis *c*. Flakes lying on *c* show tilted figures in convergent light; and in ordinary polarized light striking pleochroism, bright emerald green lengthwise and yellowish brown crosswise.

PHYSICAL PROPERTIES: Color, dull olive to pistachio green; luster, resinous to adamantine; streak, characteristic pale greenish yellow. Brittle and friable; H.=2½. D.16/4=6.763.

OCCURRENCE: Piercing crystals of mendipite from Higher Pitts, Mendip Hills.

DISCUSSION: A well defined species.

E. T. W.

CLASS: HALIDES. SUB-CLASS: HYDROXYHALIDES. DIVISION:  
 $R'' : CL : (OH) = 3 : 2 : 4.$

**Diaboleite.**

L. J. SPENCER and E. D. MOUNTAIN, *op. cit.*; this mineral, pp. 78-80.

NAME: Lacking sufficient material for a more complete investigation, which might throw light on the boleite problem, is named from the Greek *dia*, apart, and the name *boleite*. Pronunciation presumably diabole'-ite.

CHEMICAL PROPERTIES: *Formula*,  $2Pb(OH)_2 \cdot CuCl_2$  or  $CuPb_2Cl_2(OH)_4$ . Theory Pb 67.2, Cu 10.3, Cl<sub>2</sub> 11.5, O 5.2, H<sub>2</sub>O 5.8, sum 100.0%. Analysis by E. D. M. (on 0.12 g.) gave Pb 66.93, Cu 10.31, Cl<sub>2</sub> 10.89, O 5.29, H<sub>2</sub>O 6.14, sum 99.56%. Analyzed like the preceding mineral. Qualitatively resembles the latter, but does not decrepitate.

CRYSTALLOGRAPHIC PROPERTIES: *System*, tetragonal;  $c=0.95$ ; angle 001:101 =  $43\frac{1}{2}^\circ$ . Habit, tabular with the forms  $c$  (001),  $a$  (100),  $e$  (101), and  $o$  (307); crystals poor, barely 1 mm. across. Cleavage perfect on  $c$ .

OPTICAL PROPERTIES: Refractive index by prism method 1.98. Uniaxial, —. Marked dichroism with  $\omega$  deep blue,  $\epsilon$ , very pale blue.

PHYSICAL PROPERTIES: Color, bright sky blue; luster, brilliant; streak, pale blue. Brittle;  $H. = 2\frac{1}{2}$ .  $D.18/4 = 6.412$ .

OCCURRENCE: Intimately admixed with chloroxiphite.

DISCUSSION: Distinctness seems probable, but relationship to the boleite group is obscure.

E. T. W.

## REDEFINITIONS OF SPECIES

CLASS: HALIDES. SUB-CLASS: OXYHALIDES. DIVISION:  $R'' : Cl : O =$   
 $3 : 2 : 2.$

**Mendipite.**

GLOCKER, 1839; new data furnished by SPENCER and MOUNTAIN, *op. cit.*, pp. 70-75.

CHEMICAL PROPERTIES: Accepted formula firmly established by new analysis on pure material (E. D. M.): Pb 85.87, Cl<sub>2</sub> 9.35, O 4.53, sum 99.75%.

CRYSTALLOGRAPHIC PROPERTIES: New measurement of axial ratio  $a:b$  gave 0.8002:1; cleavage angle  $77^\circ 20'$ .

PHYSICAL PROPERTIES: New detn. of D gave (16/4) 7.240.

E. T. W.

CLASS: OXIDES. SUB-CLASS: DOUBLE OXIDES. DIVISION:  $R'' : R''' = 1 : 2.$

**Crednerite.**

RAMMELSBERG, 1848; redescribed by SPENCER and MOUNTAIN, *op. cit.*, pp. 86-88.

CHEMICAL PROPERTIES: Previous analyses have been imperfect, and the usually accepted formula is erroneous. *Correct formula*,  $CuMn_2O_4$  or  $CuO \cdot Mn_2O_3$ ; theory CuO 33.5, MnO 59.8, O 6.7, sum 100.0%. Analysis on material from which part

of the carbonate impurities had been removed by dilute  $\text{HNO}_3$  (by E. D. M.) gave: CuO 36.57, MnO 54.40, O 6.22,  $\text{H}_2\text{O}+\text{CO}_2$  1.88, PbO 0.88, sum 99.95%; after removing 6.10% malachite and 1.0% cerussite, this gives: CuO 34.68, MnO 58.62, O 6.70, sum 100.00%.

PHYSICAL PROPERTIES: Corrected D (16/4)=5.03.

OCCURRENCE: Present in considerable amount on the outside of nodules of lead ore from Higher Pitts. E. T. W.

CLASS: OXIDES. SUB-CLASS: DOUBLE OXIDES. DIVISION:  $R'':R'''=1:2$ .

#### Trevorite.

CROSSE, 1921. Redefined by T. L. WALKER; Trevorite, a distinct mineral species. *Contrib. Canad. Min.*, (1923); *Univ. Toronto Stud., Geol. Ser.*, 16, 53-54, (1923).

CHEMICAL PROPERTIES: *Formula*,  $\text{NiO}\cdot\text{Fe}_2\text{O}_3$  or  $\text{NiFe}_2\text{O}_4$ ; theory, NiO 31.9,  $\text{Fe}_2\text{O}_3$  68.1, sum 100.0%. Analysis by E. W. Todd on material found by E. Thomson to be mineralogically uniform, and partially purified from associated nickeliferous talc or serpentine, gave: NiO 29.71, FeO 1.96, MgO 0.24,  $\text{Fe}_2\text{O}_3$  66.24,  $\text{SiO}_2$  1.40,  $\text{H}_2\text{O}$  0.36, sum 99.91%. On deducting impurities the agreement with the theory is excellent.

PHYSICAL PROPERTIES: Color black with greenish hue; luster metallic; streak black. Very strongly magnetic. H.=5; sp. gr.=5.165.

DISCUSSION: The original review of this mineral in this journal (8, 37, 1923) was based on an incomplete description, including an imperfect analysis. On the principle that new species can not be accepted until reasonably dependable data concerning their homogeneity are available, it was classed as doubtful. The present paper furnishing adequate evidence as to the distinctness of the mineral, it may now be raised to species rank, and placed in the spinel group. E. T. W.

CLASS: CARBONATES. SUB-CLASS: HYDROXY-CARBONATES. DIVISION:  $R'':(\text{CO}_3):\text{H}_2\text{O}=3:2:2$ .

#### Hydrocerussite.

NORDENSKIÖLD, 1877; new data furnished by SPENCER and MOUNTAIN, *op. cit.*, pp. 80-85.

CHEMICAL PROPERTIES: Accepted formula now definitely based on analysis of natural material (E. D. M.): PbO 86.52, 86.43,  $\text{CO}_2$  11.21, 11.32,  $\text{H}_2\text{O}$  2.33, 2.00,  $\text{Cl}_2$  0.27, 0.32, sums (less  $\text{O}=\text{Cl}_2$ ) 100.17, 100.00%. The Cl appears to be isomorphous with (OH). The  $\text{H}_2\text{O}$  goes off only above 200°, completely at 250°.

PHYSICAL PROPERTIES: New detn. of D gave (25/4)=6.80.

OCCURRENCE: Fairly common in the Mendip Hills, although not previously recorded from there. E. T. W.