

ART. XLII.—*Eakleite, a New Mineral from California*; by
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WHILE making a microscopic study of minerals the author found in the Museum of the University of California a specimen labelled "Wollastonite, St. Inez, Calif.," whose optical properties are different from those of wollastonite, pectolite, and all other known minerals. The mineral proved to be a new species and the name *eakleite* (pronounced aké-el-ite) is proposed for it, after the mineralogist Prof. Arthur S. Eakle.

The largest piece of *eakleite* in the collection is about three centimeters across; it is free from foreign material and is made up of successive, irregular layers of fibers, some of these layers several millimeters across. It is compact, very tough, and has a hardness of about $6\frac{1}{2}$. A specific gravity measurement on a large fragment with a balance gave 2.705 and one made by suspending in Thoulet solution gave 2.685. *Eakleite* fuses at about 2.5 with slight boiling to a glassy, somewhat vesicular globule; it loses its water only at a high heat. It is easily soluble in acid with separation of flaky silica but without gelatinization.

* *Idem*, fig. 18, No. 3.

† Van Beneden, P. J., *Recherches sur quelques poissons fossiles de Belgique*, Bull. Acad. Roy. Belg., xxxi, pp. 495-518, pl. 1-4, 1871.

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The optical properties of eakleite are characteristic. It is pale pink with vitreous to silky luster. Under the microscope fibers give parallel extinction and are seen to be elongated parallel to Z. It is optically positive and the axial angle is very small.

The indices of refraction as measured in sodium light by the immersion method are :

$$\alpha = 1.583 \pm 0.001.$$

$$\beta = 1.583 \pm 0.001.$$

$$\gamma = 1.593 \pm 0.001.$$

Chemical analyses.—Two chemical analyses of a sample of the mineral, which a microscopic examination showed to be free from impurities and homogeneous, were kindly made for the author by Professor Eakle, and are given in columns 1 and 2 of the table. Column 3 gives the average of the two analyses, column 4 gives the molecular ratios, and column 5 the theoretical composition of a mineral with the formula $5\text{CaO} \cdot 5\text{SiO}_2 \cdot \text{H}_2\text{O}$.

Analyses and ratios of Eakleite.

| | 1 | 2 | 3 | 4 | | 5 |
|--|--------|-------|-------|-----|----------------|--------|
| SiO_2 | 50.43 | 49.90 | 50.17 | 832 | 5×166 | 50.16 |
| Fe_2O_3 | 0.98 | 1.11 | 1.04 | 6 | | |
| CaO | 45.51 | 45.39 | 45.45 | 812 | 5×168 | 46.82 |
| MgO | tr. | tr. | tr. | | | |
| $\text{Na}_2\text{O} \text{ \& \ } \text{K}_2\text{O}$ | none | none | none | | | |
| H_2O | 3.25 | 3.11 | 3.18 | 177 | 1×177 | 3.02 |
| | 100.17 | 99.51 | | | | 100.00 |

The relation of eakleite to other minerals is not clear, but it may be a calcium pectolite, as some analyses of pectolite show an excess of water over that commonly assigned to the species. Its fibrous structure and general appearance are those of pectolite.