THE IDENTITY OF EAKLEITE AND XONOTLITE

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In 1917 I described a hydrous calcium silicate from California for which the name eakleite was proposed.[2] Dr. Schaller has recently called my attention to the fact that chemically eakleite is identical with the previously described mineral xonotlite, and a study of the other properties of xonotlite and comparison with those of eakleite show clearly their identity.

The six available analyses of xonotlite, including those that were called eakleite, shown in the following table, bring out the chemical identity of all the specimens.

ANALYSES OF XONOTLITE

	1	2	3	4	5	6	7
SiO_2	49.58	50.25	48.91	50.17	50.80	50.96	50.16
Fe_2O_3	——	——	——	1.04	1.32	——	——
FeO	1.31	2.28	2.97	——	——	1.69	——
MnO	1.79	——	2.27	——	——	1.40	——
CaO	43.56	43.92	40.39	45.45	42.88	36.72	46.82
MgO	——	0.19	0.56	tr.	1.10	0.37	——
Na_2O	——	——	0.22	none	0.55	4.41	——
H_2O-	3.70	4.07	4.17	3.18	0.12	2.74	3.02
H_2O+					3.68		
	99.94	100.71	100.76	99.84	100.53	99.39	100.00
Sp. Gr.	2.710	2.718	2.605	2.70			

1 & 2. Tetela de Zonotla, Mexico, analysis by Rammelsberg, quoted from Dana.

3. Scotland—analyses by Heddle quoted from Dana. Contains Al_2O_3 0.11, K_2O 1.16.

4. "Eakleite," California. Average 2 analyses by Eakle, on very pure material. *Am. J. Sc.*, **43**, 465, (1917).

5. "Eakleite," Isle Royal, Michigan, Analyses by Foshag. Contained a few per cent of chlorite. *Am. Min.*, **7**, 24, (1922).

6. Natroxonotlite, near Magnet Cove, Ark. Analyses by Brackett, quoted from Dana. Contains K_2O 0.90.

7. Theoretical for $5\,CaO.3\,SiO_2.H_2O$

The optical and other physical properties have been measured on specimens from three localities and they show not only the

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[2] Larsen, Esper S., Eakleite, a new mineral from California; *A. J. Sc.* **43**, 464-5, (1917).

identity of eakleite with xonotlite, but a remarkable uniformity in the optical properties of specimens from various localities.

Optical Properties of Xonotlite

	1	2	3
α	1.583	1.579	1.581
β	1.583	———	———
γ	1.593	1.590	1.591
2V	very small	small	small
Opt. char.	+	+	+
Elongation	Z	Z	Z

1. "Eakleite," California, Larsen.
2. "Eakleite," Isle Royal, Mich., Larsen.
3. Xonotlite, Tetela de Zonotla, Mex. New data by Larsen.

The name xonotlite has priority and should be retained for the species. From all the localities the xonotlite is in matted fibers of white, gray, or pale pink color, and great toughness. Xonotlite has a specific gravity of about 2.70. It is decomposed in acid with separation of pulverulent silica. It fuses at about 2.5.

Xonotlite appears to be a relatively common mineral as, in addition to the localities described above, I have found it in specimens submitted for identification from Mine Center, Minn.

BARRANDITE FROM MANHATTAN, NEVADA[1]

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A shipment of specimens recently received at the National Museum from Mr. H. G. Clinton of Manhattan, Nevada, contained a mineral labeled "yellow turquoise" which appeared unusual in character and, since a large number of aluminium phosphates are under examination in this laboratory, it was subjected to an analysis. The results of this investigation, as presented below, identify the mineral as barrandite, a hydrated phosphate of iron, probably the ferric iron analogue of variscite and which has, hitherto, been known only from the original locality which is Przibram, Bohemia. The locality is Manhattan and the label gives the additional information that the mineral occurs "in lime-rhyolite contact with vashegyite and utahlite."

The mineral forms a filled seam occupying an irregular crack averaging 5 mm. in width with small side branches and spurs. The matrix is an indeterminate rock of dark gray color having shaly

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