If, on the other hand, the bixbyite is turned just 32°50′, the nearest approach to coincidence of a single group of 8 atoms with a similar group in topaz is obtained. Inspection of Table 1 and consideration of the average angle of turning observed suggest that this is the governing factor in the orientation.

NOTES AND NEWS

ON THE IDENTITY OF AUSTINITE AND BRICKERITE

WOLFGANG BRENDLER, *Hamburg, Germany.*

In 1932 (*N. Jahrb. Mineral.*, Abt. A, Beil.-Band **66,** p. 44, 1932) Friedrich Ahlfeld called attention to an arsenate of zinc and calcium from Lomitos, Bolivia. A complete description was to be given later by its discoverer, Dr. J. Barrande-Hesse of La Paz, Bolivia, who named it "brickerite."

At the fifteenth meeting of The Mineralogical Society of America at Rochester, N. Y., December 27, 1934, Lloyd W. Staples of Stanford University, presented a paper on a new arsenate mineral from Gold Hill, Utah, and gave a complete description of this new mineral, named by him "austinite" in honor of Professor Austin F. Rogers (*Am. Mineral.*, vol. **20,** pp. 112–119, 1935).

The chemical analysis (by R. B. Ellestad) of the new mineral that occurs with adamite in minute but distinct, well developed, colorless crystals of bladed or acicular habit, found in the oxidized zone of the Western Utah Copper Company's ore body, lead to the chemical composition $CaZn(OH)AsO_4$.

In 1936 (*Zentralbl. Min.*, Abt. A, No. **8,** pp. 226–231, 1936) Friedrich Ahlfeld and R. Mosebach described the above mentioned "brickerite" from the Lilli mine near Lomitos, Bolivia. A chemical analysis of the mineral was made by its discoverer, J. Barrande-Hesse. The analyzed material was not pure, but contained 10.46% $CaCO_3$, 1.65% SiO_2 and 0.66% Fe_2O_3. Unfortunately the analyst neglected to determine the water content and therefore arrived at the erroneous chemical formula: $Zn_4Ca_3As_4O_{17} = 4ZnO \cdot 3CaO \cdot 2As_2O_5$ Specimens of "brickerite," which I have received from Friedrich Ahlfeld, yield an appreciable amount of water when the powdered mineral is heated in a closed tube, and make it probable, that "austinite" and "brickerite" are identical.

At Lomitos the mineral occurs in banded veins with fibrous structure, resembling fibrous gypsum or aragonite. It is found filling small dikes in a greenish dacite. The fibrous layers alternate with crusts of quartz, chalcedony and limonite. Adamite was not observed on the specimens from Lomitos.

The color of the fresh mineral is light yellowish to colorless. It shows a high lustre and is very brittle. The thickness of the layers varies from a fraction of a millimeter to 6 mm. The color of the powdered mineral is a light yellowish-white. Upon weathering the mineral becomes dull and white; the weathered material contains considerable carbon dioxide and a larger amount of water. The hardness of the fresh mineral is 4–4.5; the specific gravity, 4.13–4.14.

The optical properties of the mineral from Lomitos were given by R. Mosebach and are nearly identical to those found by Lloyd W. Staples on the austinite from Gold Hill, as the following table shows:

		Lloyd W. Staples	R. Mosebach
Optical character		positive	positive
α	=	1.759 ± 0.003	1.752
β	=	1.763 ± 0.003	1.755
γ	=	1.783 ± 0.003	1.779
Maximum double refraction		0.024 ± 0.006	0.027
Optic axial angle $2V\gamma$		ca. 47°	41°

A chemical analysis, made by the writer on carefully selected fresh material, gave the following result:

	I Percent	II Ratio	III	
CaO	21.12	.377	$=2\times.188$	+.001
ZnO	30.51	.375	$=2\times.188$	−.001
As_2O_5	42.48	.185 }	$=1\times.188$	−.001
Sb_2O_5	0.53	.002 }		
P_2O_5	none			
V_2O_5	none			
CO_2	none			
H_2O*	3.47% }	.190	$=1\times.188$	+.002
H_2O (105°C)	0.12% }			
Fe_2O_3	0.69%			
MnO	0.12%			
Insoluble	1.11%			
	99.91%			

* Penfield closed tube method.

The table shows that a small amount of arsenic acid is replaced by antimonic acid. It is strange that a second analysis made by the writer on material from another specimen from the same locality gave no traces of antimony but 42.95% As_2O_5. (This analysis will be published by Friedrich Ahlfeld in a later publication.)

Between the mineral layers, crystals with terminated planes were observed in small cavities. These crystals resemble in habit the spear-shaped marcasite crystals. Unfortunately the faces of the crystals are uneven and dull so that it is impossible to obtain material for goniometric measurement.

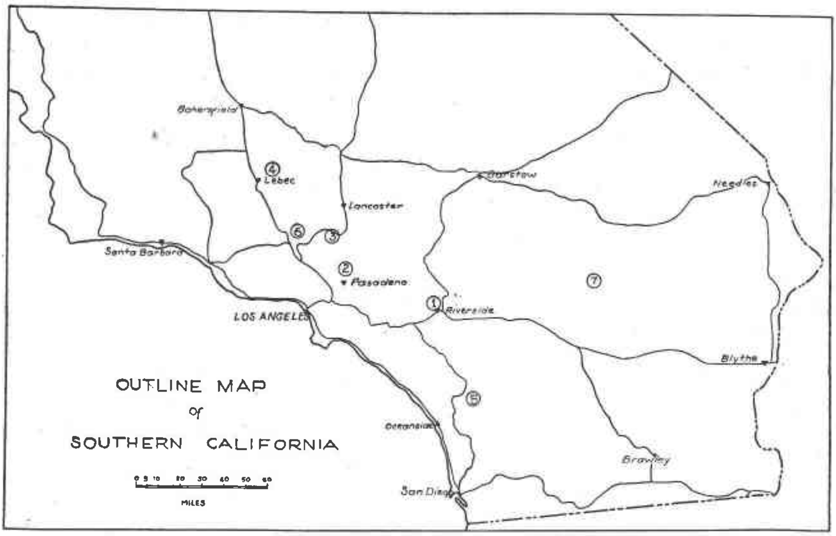
The optical properties and the chemical analysis definitely demonstrate the identity of "austinite" and "brickerite " Priority should be given the name "austinite."

NOTES ON SOME MINERALS FROM SOUTHERN CALIFORNIA

JOSEPH MURDOCH AND ROBERT W. WEBB,
University of California at Los Angeles.

INTRODUCTION

In this paper have been grouped a number of brief descriptions of new mineral localities in Southern California, and observations on some localities previously described. It is the intention of the writers to publish similar assembled data from time to time, in the hope that in this



INDEX TO LOCALITIES. (1) Crestmore, Riverside County. (2) George's Gap, San Gabriel Mountains, Los Angeles County. (3) Acton, Los Angeles County. (4) Tejon Postoffice, San Joaquin Valley, Kern County, (5) Rincon, San Diego County. (6) San Francisquito Canyon, Los Angeles County. (7) Twenty-nine Palms, San Bernardino County.

way the information may be made more readily available than if issued as separate items. Unless otherwise indicated by initials (M or W) after each locality, the areas described were investigated by both authors.