about 25 per cent of pore space. The tuff structure is not well preserved, but traces of it are shown in plate 1, Fig. *c*.

The "porous tufa" is a nearly white, fine-grained tuff-like material. Microscopic study indicated that it, like the green material, was composed essentially of analcite. Here, however, the tuff structure is perfectly preserved as shown in plate 1, Fig. *a*. Most of the original shards were flattened or slightly curved plates of glass, but many have the Y-shapes that are formed at the juncture of three bubbles. A few unbroken spherical bubbles are preserved. The fragments range up to about 0.5 millimeters in length and have been altered to analcite, together with perhaps about 20 per cent of bentonitic clay. The analcite grains range from 0.003 to 0.015 mm. in diameter, are colorless, and roughly euhedral in outline. Commonly a double row of analcite grains have formed within an altered shard as shown in plate 1, Fig. *b*. The clay material is slightly brownish. Orthoclase, biotite, and hornblende grains commonly represent less than 1 per cent of the material, but a few narrow lenses contain a little detrital quartz and small rounded oolite-like grains of carbonate are present.

Thus the Wikieup analcite was obviously derived from glassy volcanic ash. Moore concluded that the material was deposited in a playa; and there seems little doubt that sodium salts were the factor that resulted in analcite rather than bentonite, the normal product when glassy volcanic ash breaks down.

SHORTITE: CORRECTION OF SPACE GROUP[a]

W. E. Richmond, *Geological Survey, Washington, D. C.*

The space group of shortite was previously determined by the writer[1] to be D_2^6-$A222$. This choice of space group was based on the reflections given below, all of which were not given in the original paper. These reflections lead to the "probable" space group D_2^6-$A222$, as given in the *International Tables*.[2]

The reflections obtained from zero and first layer-line photographs about [100] and a zero layer-line photograph about [010] are listed below.

$hkl = k+l$ even
$0kl = (k+l)$ even, (k and l) both odd and both even
$h0l = l$ even
$hk0 = k$ even

[a] Published by permission of the Director, Geological Survey.

[1] Richmond, W. E., *X*-ray crystallography of shortite: *Am. Mineral.* **26,** 288 (1941).

[2] *Internationale Tabellen zur Bestimmung von Kristallstrukturen*, Borntraeger, *Berlin* (1935).

$h00 = h$ all present
$0k0 = k$ even
$00l = l$ even

The four possible space groups compatible with these reflections are D_{2h}^{19}-$Ammm$, D_2^6-$A222$, C_{2v}^{11}-$A2mm$, C_{2v}^{14}-$Amm2$ or $Am2m$.

However, further consideration of the morphological development of the crystals, as given by Fahey,[3] shows that there is a vertical 2-fold axis of symmetry. The class symbol is therefore $mm2$. This conclusion together with the above reflections leads to the space group C_{2v}^{14}-$Amm2$.

An error in transcription appears in column 5, page 288. The number of atoms of O in the unit cell should be 18.00 in place of 18.3.

[3] Fahey, J. J., Shortite, a new carbonate of sodium and calcium: *Am. Mineral.*, **24**, 515–516 (1939).

PROCEEDINGS OF SOCIETIES

CRYSTALLOGRAPHIC SOCIETY

The second meeting of the Crystallographic Society was held April 22, 1941, in the Mineralogical Lecture Room, Harvard University, Cambridge. Thirty-one members and guests were present. Professor M. J. Buerger, Acting President, spoke briefly of the purposes of the organization. The meeting was then addressed by Dr. I. Fankuchen on the topic "Preparation and Handling of Small Crystals." Instruments used in the growth and manipulation of micro-crystals and mounted micro-crystals of proteins were exhibited. In the ensuing discussion, special techniques used at the Massachusetts Institute of Technology and at Harvard University in handling minute crystals for x-ray and goniometric examination were described.

C. FRONDEL, *Acting Secretary*

PHILADELPHIA MINERALOGICAL SOCIETY

The Academy of Natural Sciences of Philadelphia, May 1, 1941

Dr. Thomas presided, with 69 members and visitors present. Mr. Harold D. Feuer addressed the society on "Buying Gem-stones in Foreign Markets." His reminiscences described experiences in Brazil and Ceylon.

Meeting of June 5, 1941

Dr. Thomas presided, with 60 members and visitors present. The evening was devoted to the commemoration of the Twenty-fifth Anniversary of the issue of the first number (July, 1916) of *The American Mineralogist*. The thought to establish this magazine was conceived by Samuel G. Gordon, then secretary of the Philadelphia Mineralogical Society, who had in mind a revival of the old *Mineral Collector* (1894–1909). To secure the support of amateur mineralogists an editorial board was set up of Wallace Goold Levison, secretary of the New York Mineralogical Club, Mr. W. Scott Lewis of the Mineral Collectors Association, and Dr. Edgar T. Wherry and Mr. Samuel G. Gordon of the Philadelphia Mineralogical Society. Dr. Levison was appointed editor, but the actual editorial work,