

*A note on monalbite*By K. M. HALL and S. QUARENTI¹

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Summary. Attempts to reproduce the X-ray measurements which led W. L. Brown to postulate the existence of monalbite at room temperature were unsuccessful.

TO supplement accurate three-dimensional refinements of the structures of low albite and (triclinic) high albite nearing completion in this Laboratory in 1963² it was decided to attempt a similar study of monoclinic high albite (monalbite, Brown 1960).

Dr. Brown kindly gave us a crystal (his no. 66) of monalbite. It was glassy on the outside and gave very small, weak reflections, which became weaker as more photographs were taken, then disappeared completely, indicating that the crystal had completely turned to glass.³

Specimens of the Schmirntal material (S.19) from which the 'monalbite' had been prepared were also kindly supplied by Dr. Brown. The cell dimensions of this natural albite and of specimens heated for 30 weeks at 1000° C showed them both to be low albite. No changes were observed on further heating at 1000° C but 20 days at 1060° C \pm 5° caused the crystals to become glassy on the surface and the cell dimensions to change to those of ordinary triclinic high albite. No further changes were observed after 40 more days at 1060° C.

The observations on Brown's crystal no. 66 and the failure to prepare monalbite after prolonged heating of the same material as was used by Brown in his preparation were reported to Brown in September 1964; no explanation of the discrepancy between his findings and ours was proposed. When, later, it was found that 'monalbite' contained a considerable amount of potassium (Brown, this vol., p. 80) it was

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² Forming part of the Laboratory's study of feldspar structures under Dr. H. D. Megaw and Dr. W. H. Taylor. A detailed account is in preparation for publication.

³ We are indebted to Professor Donald F. Bloss for the first photographs of this crystal.

immediately obvious how our heat treatment—on platinum foil, in an alumina boat, in a furnace tube of very pure silica— had avoided the potassium contamination which invalidated Brown's experiments. The behaviour of Brown's crystal no. 66 in our experiments, in relation to its composition as measured later by neutron activation analysis, was not further studied.

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Reference

BROWN (W. L.), 1960. *Zeits. Krist.*, vol. 13, pp. 297–329.

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