## Transition from gneiss to migmatite and the relationship of leucosome to peraluminous granodiorite, Cooma Complex

R. Vernon

S. Johnson

Keywords: gneiss, migmatite, Cooma complex, Murrumbidgee batholith



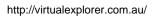
**Abstract:** n the Cooma Complex, SE Australia, leucosomes first appear as small patches and veinlets in high-grade, muscovite-free gneisses containing cordierite, andalusite and K-feldspar. Simultaneously, fibrous sillimanite appears in discontinuous folia. The leucosomes consist of quartz, microperthitic K-feldspar and cordierite, rarely with minor andalusite or biotite. Plagioclase is absent, apart from exsolution lamellae in the K-feldspar. Breakdown of biotite probably produced the leucosomes. The leucosomes are largely confined to the metapelitic beds, which are plagioclase-poor; this explains the calcium-poor composition of the leucosomes. Most of the melting occurred during  $D_3$ , which is responsible for most of the macroscopic folding in the area, though some leucosomes may predate  $D_3$ . The metapelite leucosome is compositionally unsuitable as a source of the Cooma Granodiorite magma. Leucosome rich in plagioclase, which could be a source for the Cooma Granodiorite magma, was produced later (probably early during  $D_5$ ) by partial melting of quartzofeldspathic metapsammitic rocks. It intrudes and disaggregates the metapelitic leucosomes, confirming that melting of the local metapelites did not produce the Cooma Granodiorite.



http://virtualexplorer.com.au/

| Ta | h | ما | Ωf  | Co | nte  | nts |
|----|---|----|-----|----|------|-----|
| ıa | v |    | VI. | V  | 1116 | III |

Editor's Note 4





## **Editor's Note**

This special volume is preserved in its original format. The main purpose of this link is to allow the registration of the DOI.

To see a full copy of this paper copy the link below into your browser

http://virtualexplorer.com.au/webroot/special/meansvolume/contribs/vernon/index.html or click on the link provided here.