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# Montmorillonite Pseudomorphs after Amphibole from Melbourne, Australia

W. F. Cole and C. J. Lancucki

Commonwealth Scientific and Industrial Research Organization, Melbourne, Australia

**Abstract:** Well developed smectite " crystals" up to 10 mm long, which probably are pseudomorphic after titaniferous hornblende phenocrysts, are present in a weathered dike in a Melbourne clay pit. The pseudomorphs contain 77 per cent of montmorillonite as determined by X-ray powder diffraction, differential thermal analysis, thermo-gravimetric and chemical analysis. The pseudo-hexagonal shape of the pseudomorphs probably reflects the original crystal habit of the hornblende. The mechanism of alteration of an amphibole to a smectite is discussed.

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