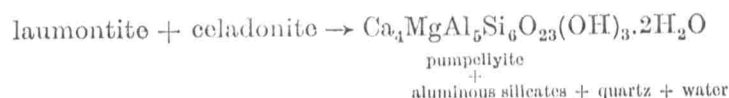


Fig. 3. The sequence of Ca-Al silicates 1, 2, 3, 3', 4 coexisting with quartz and water under regional conditions in southern New Zealand. 1a and 1b are the siliceous and aluminous extremes of the heulandite series.

as clays, micas and chlorites. Using conventional formulae, we have:



Epidote, $\text{Ca}_2(\text{Al,Fe})_3\text{Si}_3\text{O}_{12}(\text{OH})$, is characteristic of the greenschist facies of Otago and it may be produced from pumpellyite and prehnite by further dehydration reactions. The final step in the series is the well-known decomposition of epidote in the amphibolite facies, anorthite entering the plagioclase and excess alumina being taken up by such minerals as amphiboles. Dehydration is also involved in the formation of albite from analcime and quartz.