

composition (including  $\text{Fe}^{3+}$  and  $\text{H}_2\text{O}$ ) with changing environment provides much more information. Such investigations have already begun (Ungaretti *et al.* 1981) and promise to expand in the future, coupled with corresponding work on coexisting minerals. These studies will be expensive and will require a change in the general perception of the relationships between crystallography, mineralogy and petrology; the result will be a better characterization of petrologic processes.

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