

underlying assumption is with falling temperature that minor coatings of may have this origin but lavas. WALKER (1951) on plateau of Ireland of flows, in all about been shown for the

es may be related to flow or intrusion, to temperature resulting from solutions, or to as McLINTOCK (1915) te-scolecite in olivine during hydration with, followed by a reverse noted by the thermal

tent trend. Nevertheless consider that this fact thermal and regionally excessively less hydrous

content of zeolites and above, together with zeolites in veins and montite and analcime. relatively insignificant, GLI *et al.* (1940) in and the Aar granite. stilbite, accompanied EENBERG (1953) from h zeolites, except for one. Observations at active thermal areas o occurs in tholeiitic

au olivine basalts are psite (WALKER, 1951), es have been reported s of phase equilibria, ally coexist with each eve that the grouping occur in immediate coexisting with opal,

cristobalite or silica-rich glass, B saturated, C undersaturated with respect to quartz. Many exceptions which could be inferred from published paragenetic sequences seem to be more apparent than real, although exceptions undoubtedly do exist. In particular chabazite, which is chemically equivalent to

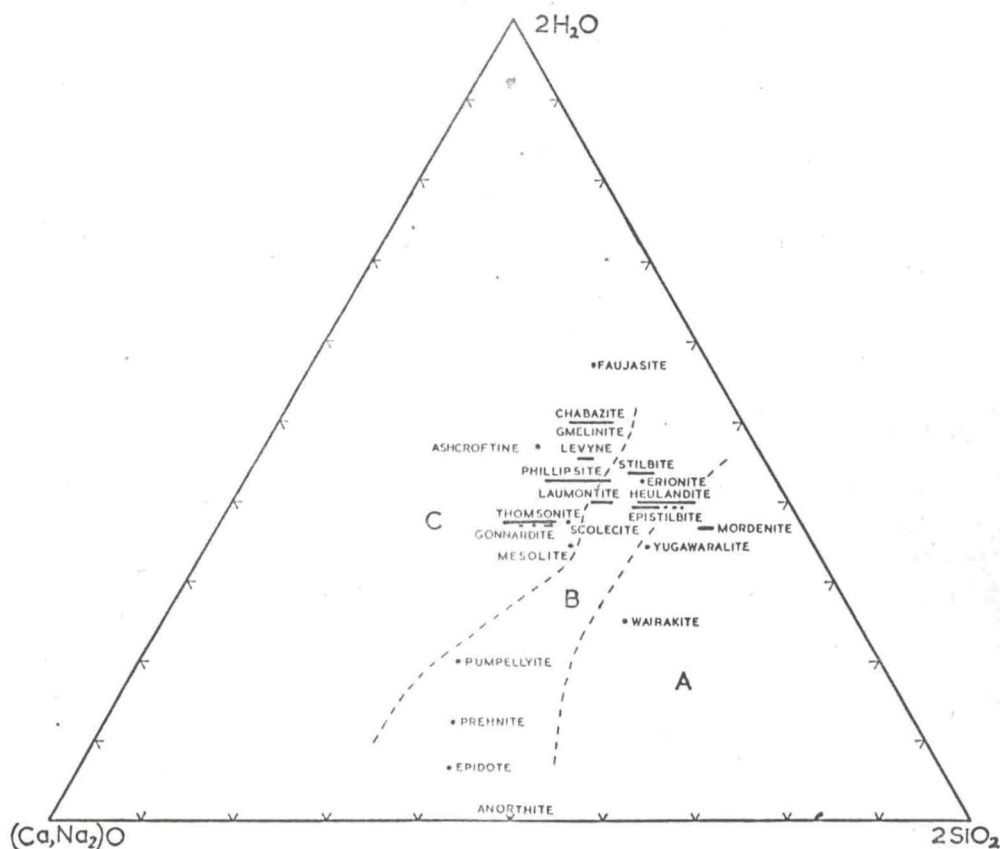


Fig. 5. Composition in molar proportions of lime-rich zeolites (see Appendix 2) and of certain other Ca-Al silicates. For the zeolites and anorthite, $(Ca, Na_2)O$ is numerically equal to Al_2O_3 . A. Field of phases favoured by supersaturation in silica. B. Field of phases which can commonly coexist with quartz (erionite coexists with opal). C. Field of phases favoured by a silica-deficient environment.

stilbite with less silica and to laumontite with additional water, falls in the field of the less siliceous zeolites yet has often been reported in association with quartz (e.g. in the Nova Scotia traps, WALKER and PARSONS (1922) p. 42), although not necessarily in equilibrium with it. Similarly it has been synthesized with quartz (see Table 14).

3.6. Groundmass zeolites in igneous rocks, pegmatoids and glasses

It is well known that analcime and other zeolites are common in the groundmass and pegmatoids of basic, alkaline lavas and shallow intrusives. Apart from the fact that they are characteristically silica-poor zeolites, they provide little direct