These results may be compared with results on lawsonite and amorphous silica obtained previously by Fyfe (1955b) (Fig. 18). Unfortunately the reaction could not be followed to temperatures much lower than the range shown as the rate of reaction is too slow.

A1.7.8. *Dehydrated heulandite.* The amorphous phase formed by heating heulandite

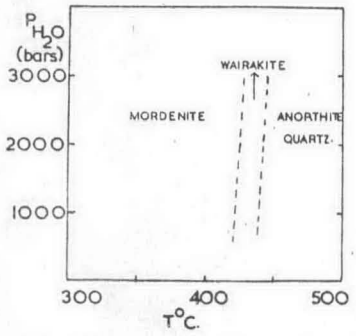

Fig. 18. Phases formed by reaction of lawsonite with amorphous silica.

(Appendix 4) was used in some long runs of more than 30 days. The results (Table 17) differ considerably from those of Fyfe (1955b) from short runs on the same material in which 100 per cent crystallization to heulandite was observed. The appearance of wairakite in the long runs implies that it is more stable than heulandite in the range studied.

Table 17

P (bars)	2000	2600	2200	w.v.p	2200
T (°C)	280	340	360	370	410
Products	H + W	H + W	H + W + M	An + (W)	M + W + An
Remarks	Q added				

A1.7.9. *Thomsonite.* Natural thomsonite from Otama, New Zealand, mixed with quartz, produced wairakite in the range 280–316°C at pressures from s.w.v.p. to 4000 bars. The reaction could not be studied at lower temperatures as 30-day runs produced no detectable alteration.

A1.8. *Experiments involving glasses of prehnite composition*

The results of crystallization of glass formed by fusing a natural prehnite (Appendix 3) are summarized in Table 18 and in Fig. 13.

A series of thirty-six runs was carried out on a glass formed from the same prehnite as above but with silica added to give a molar ratio of prehnite : silica of 1 : 4. The reluctance of prehnite to form except at high pressures is an indication of metastable crystallization (Taylor, 1957). The results are summarized in Fig. 14.

A1.9. *Experiments with epidote glass*

A glass was produced by fusion of a deep green epidote (6·2 per cent Fe_2O_3) and the results of crystallization (Taylor, 1957) of twenty-five samples are summarized in Fig. 15. These results differ from those of Ehlers (1953) who found no field of prehnite or vesuvianite.

Appendix 2

Composition and Density of Zeolites

(D. S. C.)

Basic data on composition, density and structure of zeolites are in many cases inadequate for a proper consideration of mutual relationships and stability fields and a tendency remains