

gradually changes to chlorite, forming with it a disordered mixed layer structure (Fig. 3A and B: at temperatures above 400°C reflection with  $d \sim 14 \text{ \AA}$  is no longer shifted towards  $\sim 18 \text{ \AA}$  in montmorillonite saturated with glycerine, and does not decrease sharply to 9.9 Å in montmorillonite heated for 2 hours at 600°C). The transformation of montmorillonite to chlorite at  $P_{\text{H}_2\text{O}} = 1400 \text{ kg/cm}^2$  is shown in Fig. 4. The diagram shows change in the value of  $d_{100}$  in untreated montmorillonite (a), montmorillonite saturated with glycerine (b), and montmorillonite heated for 2 hours at 600°C (c).

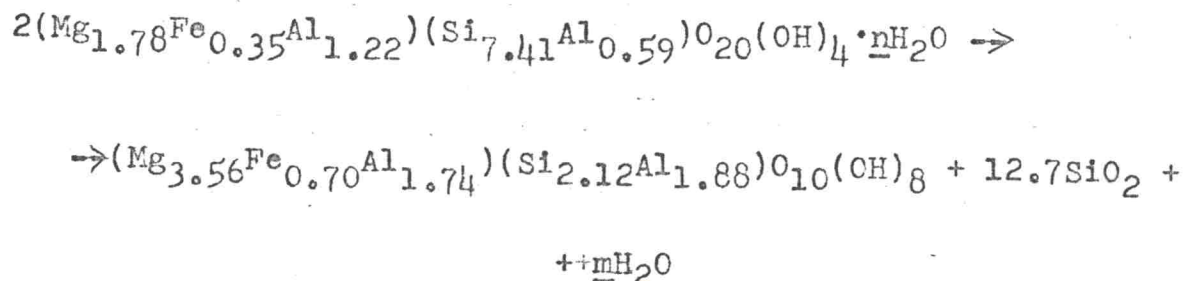
The formation of disordered mixed layer montmorillonite-chlorite structure begins at point A (500°C, 1400  $\text{kg/cm}^2$ ). At 650°C

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Fig. 4

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the structure becomes strictly non-expandable. If, instead of the mixed layer phase, chlorite is taken as the end member in the montmorillonite - chlorite transformation, the transformation may be represented by equation:



The silica released in this reaction crystallizes as quartz,