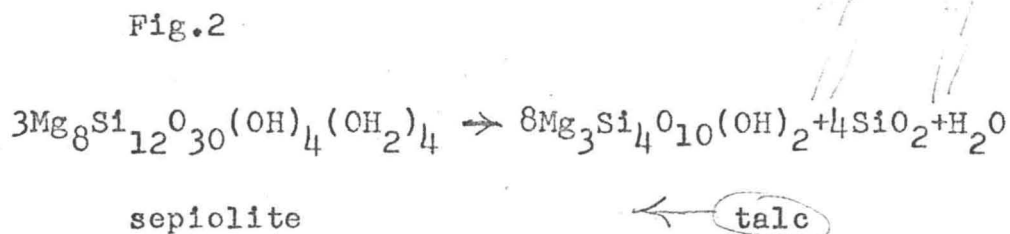


(Fig.2B, a', b', c', a, d. At 350°C, under hydrothermal conditions, sepiolite changes to talc (Fig.2A, e) and palygorskite, to montmorillonite (Fig.2B, e), and further transformations of these minerals must be considered separately. As can be seen from the data of Table 2, the characteristics of the diffractometer traces become clearer and clearer as the duration of run is increased.

Sepiolite. The formation of talc at the expense of sepiolite can be represented by the following equation, in which the idealized formulas of the minerals are used:



As can be seen from Fig.2A, d, B, d the silica released in this reaction appears as cristobalite (reflection 4.04 Å).

Fig. 2B

At  $T = 350^\circ\text{C}$  talc is represented by its hydrated variety, as indicated by the increase in the interplanar distance  $d_{002}$  to 9.7 Å. This value of  $d$  is the same as  $d_{001}$  in non-expandable montmorillonite; however, experiments with dioctahedral montmorillonite (from Askangel', Georgian SSR) show that expandable montmorillonite remains stable up to a temperature