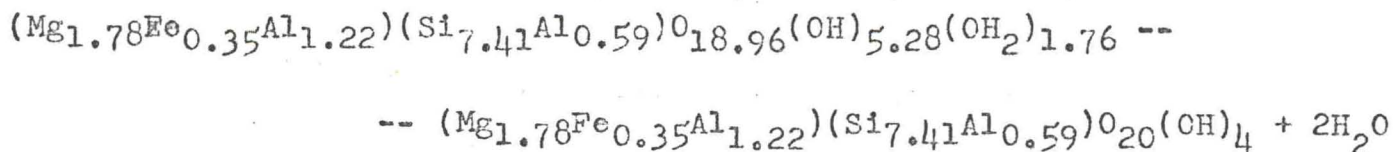


mullite appears in the charge. Transformation of cristobalite into quartz reaches maximum intensity at the highest pressure (2000 kg/cm^2).

Palygorskite. In 22 to 48 hour runs decomposition of palygorskite is completed sooner at high pressures, although, as in the case of sepiolite, the process begins at 325°C .* Beginning with a temperature of 325°C , in the entire temperature range, palygorskite was transformed into montmorillonite, whose appearance is indicated on the diffractometer traces by reflection $d_{001} = 14.7 \text{ \AA}$ (Fig. 2B, e, f, d). In samples saturated with glycerine d_{001} increased to 18 \AA (Fig. 3A, a, b, c), and after annealing at 600°C , decreased to 9.9 \AA (Fig. 3B, a, b, c).

The montmorillonite formed from palygorskite is dioctahedral with $d_{060} = 1.485 \text{ \AA}$ (Fig. 2B, d). The transformation may be represented by equation:



Beginning at 500°C , under water vapor pressure, montmorillonite

* In the experiments at $100\text{--}200^\circ\text{C}$ (Fig. 2B, b', c') palygorskite with admixed calcite was used, but in the experiments at higher temperatures (Fig. 2B, d-1) only palygorskite freed of calcite by washing in 5% HCl (Fig. 2B, a) was used.