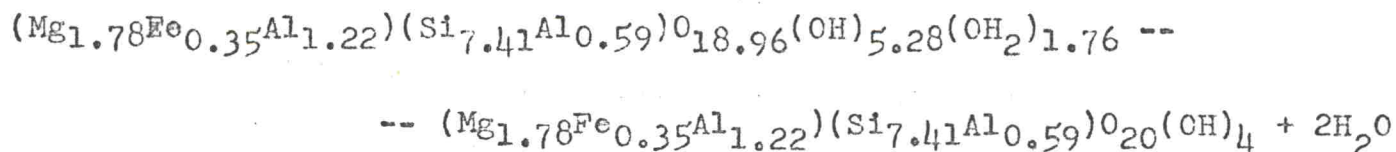


mullite appears in the charge. Transformation of cristobalite into quartz reaches maximum intensity at the highest pressure (2000 kg/cm²).

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 $d_{001} = 14.7$ A (Fig. 2B, e, f, d). In samples saturated with glycerine d_{001} increased to 18 A (Fig. 3A, a, b, c), and after annealing at 600°C, decreased to 9.9 A (Fig. 3B, a, b, c).

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



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

* In the experiments at 100-200°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.