~~the~~ phase transformation of this cerium took place at pressures close to those found for pure cerium by Bridgman in his latest papers /4, 5/. In calculating the heat of the transformation a correction was made for the 3% of "inert" impurities.

Fig. 1. Schematic section of the high-pressure vessel. 1) electrical conductor ; 2) resistance manometer ; 3) cylinder containing the cerium ; 4) body of the vessel ; 5) copper block ; 6) cylinder containing the mercury ; 7) thermocouple ; 8) ebonite bushing.

The experiments were carried out in a high-pressure booster with a working channel 25 mm ~~long~~ across, this being sufficient to create the required hydraulic (pentane) or gas (nitrogen) pressure. A copper block 5 was mounted on the electrical conductor ~~4~~ 1 (Fig. 1). The cerium and mercury samples 3 and 6 under consideration were placed in two similar small cylinders made of plexiglass (wall thickness 1.5 mm and internal diameter 6 mm), firmly fixed in the block 5. The rise in temperature associated with the phase transformations (solidification of mercury or transformation of cerium into the denser form) was measured with a differential thermocouple 7 made of iron and Nichrome, coated with a thin layer of shellac, and recorded with a Kurnakov pyrometer. The "hot" junctions of the thermocouples were centered in the cylinders by means of the ebonite bushings 8.

The rate of pressure rise was the same in all the experiments.