of the phase transformation in cerium Q_{Cd} calculated from the formula *

.....R.p. 352

where q_{Hg} is the heat of fusion of 1 g of mercury according to Bridgman's data /9/ at the temperature of the experiment, and K is the ratio of the areas of the differential record of the thermograms ($S_{Ce} : S_{Hg}$).

The average value of Q_{Ce} from the three series of experiments (a new pair of samples and new thermocouples were taken for each series) equals 880±40 cal/g-atom.

Discussion of Results

The results of the present investigation confirm the identity of the type of cerium formed at high pressures with the low-temperature form. Earlier Trombe and Foex /11/ studied the behavior of cerium at low temperatures and observed a transformation at 109°K, with a 10% fall in volume. In connection with this it was first suggested in /2/ that the form of cerium found by Trombe and Foex was identical with that discovered by Bridgman /1/ at high pressure. Two papers were later published in support of this view. Shuch and Sturdivant /12/ reported their earlier x-ray diffraction study of the crystal structure of cerium at 90°K.

* We consider the cerium transformation as completed since the pressure in our experiments went up to 13,000 kg/cm^2 ; at this pressure the less dense form could not be detected by x-ray diffraction (see /2/).