

FIG. 1. Beryllium high-pressure vessel.

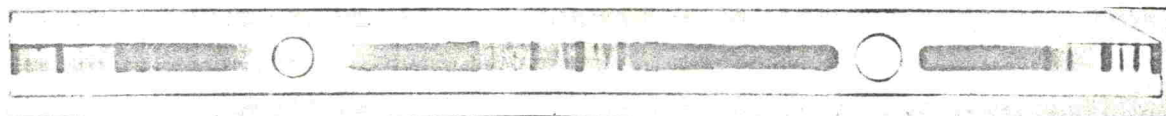
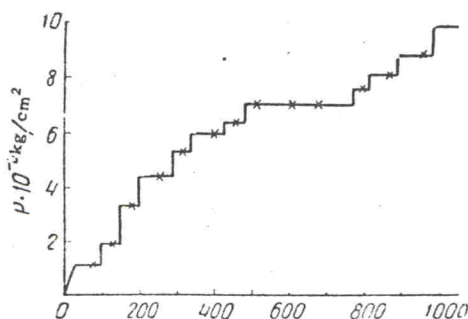
FIG. 2. Diffraction pattern of beryllium at a pressure of 9900 kg/cm<sup>2</sup>.

FIG. 3. Graph of cerium specimen held in apparatus under pressure (in one series of experiments); x - exposure time.

was used as the pressure transmitting medium.

The diffraction patterns were photographed in copper radiation at 40 kV and an anode current of 28 mA with 7-10 hr exposure (collimator aperture of 0.3 mm). A 0.016 mm aluminium foil was positioned in front of the film at the ring of the X-ray film holder; inside the collimator hood was a nickel filter 0.01 mm thick. The X-ray film was loaded asymmetrically into the holder (68.4 mm dia., Fig. 2); the effective radius of the camera was subtracted for each photograph. 35 diffraction patterns were taken at high hydrostatic pressures of up to 10,000 kg/cm<sup>2</sup>. To achieve the best equilibrium state the specimen was held at a certain