from differences in the compression and release data. Added to the 2 percent error in the area determination of p(T) vs T plots we believe that the measurements are good to ±7 percent.

Results and Discussion

The hydrostatic pressure results are given in Figure 7 for the four materials investigated. The induced emf for a fixed temperature interval was found to be a linear function of pressure for all four materials within the accuracy of the measurements (0.25 μv/Kb). For the copper and constantan wires, the induced emf per kilobar was also a linear function of temperature interval up to an interval of 190 - 560°K. On the other hand, the induced emf per kilobar for chromel and alumel was zero between 190 and 300°K, and then increased non-linearly above 300°K. Values of emf are considered positive when the low-temperature seal side of the circuit in Figure 1b is positive.

The piston cylinder results are given in Figure 10 for chromel and alumel and in Figure 11 for platinum and platinum-10 percent rhodium. It was found that over the temperature intervals investigated alumel and platinum had a pressure emf at constant temperature intervals which was linear with pressure up to 40 kilobars. A non-linear pressure dependence was found for Pt10Rh and chromel, both of which became less sensitive to pressure at higher pressure. Due to this non-linear pressure dependence, the results are also tabulated in Table 1.

The comparison between the piston cylinder results and hydrostatic results on the chromel and alumel wires indicates the two methods