

the melting transition shows a definite subcooling and sluggishness on decreasing the temperature as was observed also by Stager and Drickamer⁵ in their resistance-temperature curve at 440 kb. The BaI and BaII phases show definite metallic behavior, each having a positive temperature coefficient of resistance. Our measurements of the resistance of the liquid phase are very rough, but indicate a very small positive temperature coefficient of resistance for the liquid. The similarity between the resistance melting curves observed at low pressures in the present work and those obtained at higher pressures⁵ lend support to the tentative conclusion that the 144 kb transition at 25°C is indicative of melting. Positive identification of this phase as liquid, however, can be made only after high pressure x-ray measurements are carried out. If barium is liquid above 140 kb at low temperatures, the technological implications would be significant since true hydrostatic measurements would be possible in the very high pressure range at reasonable temperatures.

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