

value of 1.0 Kb. Using our measurements of pressure drop in the talc portions of the hot and cold end of the cell and the similar results of Boyd and England (3) we estimate the  $\Delta P$  to be 2 Kb in the talc.

Figure 6 shows the temperature calibration for the furnace end of the high pressure cell. This data was taken in 2 runs of four thermocouples each; the middle 2 thermocouples were common to both runs. All the temperature calibration data as well as the experimental data reported in this paper were taken after the cell had been cycled to 40 Kb pressure. It was necessary to do this in order for the temperature calibration to remain constant from run to run and also during a run. This was also useful in checking for failures in the experimental setup.

All the information is shown in Figure 4. It is important to notice that the talc portions contribute little to the measurement or its uncertainty and tend to cancel out. The most important effect comes in the AgCl portion of the cell. As long as the pressure and temperature gradients are small or well known here the uncertainty of the measurement is small. If the pressure calibrations at room temperature are valid for high temperature the uncertainty of the method is less than 2 percent when the pressure is evaluated in the AgCl portion.

The location of the high temperature thermocouple is shown in Figure 3. Examination of Figure 6 shows that this is the location of maximum temperature in the cell. A great deal of care was taken to keep the location of this thermocouple as well as the cold thermocouple