

the AC interference suddenly became very large. This temperature increased with increasing pressure and in calibration runs readings were taken to within about 50 watts of the upper limit and then stopped.

Run TC-14 was made to see if there was any effect from heating the sample at lower pressures before taking the high pressure readings. As can be seen from Table 9 there seemed to be no effect.

In several runs the heating process was repeated to see if the scatter was high for a given sample. In every case the second temperature readings agreed to within 10 to 15 °C of the initial readings. On one run the temperature was taken both on increasing and decreasing pressure and the agreement was just as good. This shows that a given sample is very consistent and the scatter between different samples must be from differences in sample construction or from differences in the tetrahedrons themselves.

In run TC-4 the power was sustained at 500 watts for 20 minutes after the thermocouple readings were taken and the indicated temperature dropped about 100 °C during this time. There was either considerable thermocouple degradation at these conditions or the formation of coesite and kyanite (high temperature reaction products of the pyrophyllite) results in higher heat transfer out of the sample giving a lower temperature for a given power input.