after the salt and sample are fused in, then taking the difference. Particularly with old inserts there is some extrusion and t_c at the end of the run is slightly different than the initial t_c. (It is essential to micrometer both the assembly and individual pistons at the end as there is measurable shortening of the pistons). Where t_c varied appreciably from the initial to the final value, it was assumed that the effective t_c varied linearly with p_A, reaching its final value at the highest p_A. Equations (2) and (3) have been tested for values of t_c ranging from 4-15 (0.004" - 0.015").

The pressures are necessarily less accurate in Cell II, so it is desirable to make all studies in both cells allowing overlap for continuous calibration. It is difficult to estimate exactly the accuracy of the pressure determination. The transitions of the silver halides were reproducible to $\pm$ 1000 atmospheres. Equations (2) and (3) reproduced a large number of experimental points with the largest deviation in t_c being 0.1 (0.0001") as long as p_c was greater than 50 (50,000 atmospheres).

Figure 3 shows the press constructed for this work. The dimensions can, of course, be varied, but we used a body of AISI 6150 hardened to 45-46 Rockwell C 6" O.D. and 4 1/2" I.D. The windows are 2" x 2 1/2". It is necessary to back the pistons with carboloy blocks 1" in diameter and one inch thick. The press is portable and can be inserted at the normal sample point of many spectrometers with minor modifications of the optics.