Coulomb Term: The contributions of the Coulomb energy (W_c) to the stiffnesses C_H and C_{66} were calculated at the observed (c/a) ratio of 1.8855 by an extension of Ewald's method[18] on the assumption that the doubly-charged ion-cores may be approximated by point charges in an electron sea of uniform density. The effective charge of the ion-cores was taken to be 2Ze and the results of the calculations are recorded in Table 3 as a function of Z^2. The fact that c/a is different from the ideal value of $(8/3)^{1/2}$ substantially modifies the calculated coulomb stiffness C_H.

Full Zone Term: In calculating the contributions of the full zone Fermi energy (W_F^I) the energies of the electron states are taken to be proportional to the free electron energies; the constant of proportionality being the inverse effective-mass ratio (m/m*). The parameter α_o is introduced as the inverse effective-mass ratio (m/m*) for the full zone. The details of the calculations are given in the Appendix and the results are recorded in Table 3 as a function of α_o.

Overlap-Hole Term: In the calculation of the contribution from the overlap-hole energy (W_F^{II}), the B and P types of overlaps and the H type of hole were assumed (see Fig. 2.). The Q type overlap has not been observed in cadmium by low field De Haas