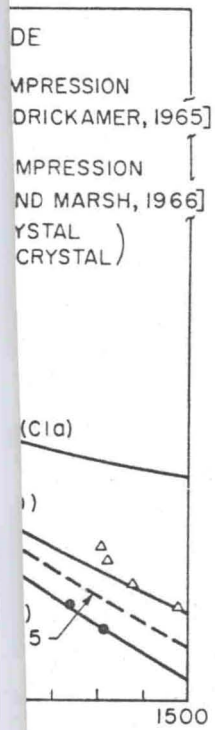

lues of volume ratio v/v_0
im, sodium, and lead; the
given in the text.

1. For equation 9, $m = 5$
< 0, whereas for $C > 0$ th
en by equation 4 was used t
value of K_0'' was chosen (b
provide reasonable agreemen
ntal compression data. Th
a are cited in the figures.
ill clearly affect the appar
ed for a good fit. For th
ant to have a reliable valu
confidence can be placed
'. For example, a relativ
ay very well account for th
ce (in sign of K_0'') betwe
sium. Similarly, taking
difference in K_0' betwe
l polycrystalline aluminu
likely to affect the conc

le, α-quartz, and magnesi
disparity between the ex

imental data permits the choice of C to vary
siderably. In the case of aluminum oxide
$= +5$ and $C = -15$ would provide a
sonable fit of the single-crystal and poly-
stal shock wave data, respectively. We have
en $C = -5 (K_0'' = -2 \times 10^{-12}$ cm^2/dyne)
represent an average fit, but we certainly
uld not attach any particular significance to
s choice of C in view of the available data,
hich seem to indicate that the single-crystal
d polycrystal behave somewhat differently.
n this case the calculated curves are based on
K_0' determined from the ultrasonic data for
olycrystalline material. For α-quartz $C = 10$
$K_0'' = 27 \times 10^{-12}$ cm^2/dyne) provides a rea-
nable fit of the shock wave data, whereas the
gh-pressure isothermal data suggest a smaller
value of C for a fit. For magnesium, Figure 4,
$C = \pm 2$ ($K_0'' = \pm 5.8 \times 10^{-12}$ cm^2/dyne) ac-
commodates the scatter between the high pres-
sure isothermal compression data.

The calculated curve for potassium (Figure 5) shows good agreement with experimental data by picking $C = -0.6$ ($K_0'' = -17.8 \times 10^{-12}$ cm^2/dyne). Strangely, a positive value of C was required to fit the experimental data of the other alkali metal, sodium. In Figure 6 the calculated curve for sodium with $C = 1.5$ ($K_0'' = 24.3 \times 10^{-12}$ cm^2/dyne) provides a very good fit of the experimental data to high pressures.

In Figure 7 the agreement between calculated and experimental data for lead is quite good over the entire pressure range for a value of

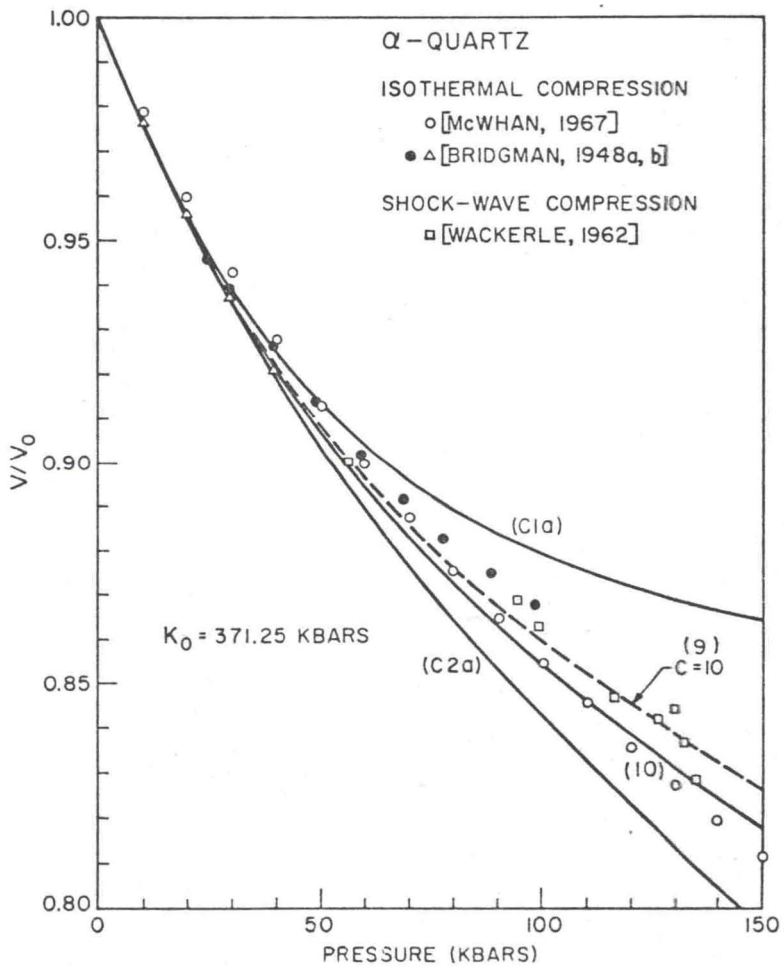

Fig. 3.