

APPENDIX B. EXTRAPOLATION FORMULA FOR COMPRESSION FROM EQUATION 7

By replacing dP in equation 8 with $d(P + a)$, we see that it is of the form

$$V = \exp \left[- \int \frac{x dx}{bx^2 + cx + d} \right]$$

The integral in the exponent is

$$\frac{1}{2b} \ln (bx^2 + cx + d) - \frac{c}{2b} \int \frac{dx}{bx^2 + cx + d} \tag{B1}$$

where

$$b = m, \quad m > 0$$

$$c = (1 + A - am)$$

$$d = -aA$$

In writing the expression for

$$\int \frac{dx}{bx^2 + cx + d} \tag{B2}$$

it is of interest to know the sign of $q = c^2 - 4bd$; that is, we have $q = (1 + A - am)^2 + 4amA > 0$ if $a, A,$ and m are all positive. This is the usual case since ordinarily $(K'_0 - m) > 0$ and $C = (K/K_0)'' < 0$, and this requires

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(9)
C=1.5

(10)

300

$$m + \frac{a_n}{(P + a)^n} \tag{A}$$

ears as the special case
pecial case $n = 1$ is also th
in which $a_2 = 0$. Wit
d $a_1 = 1 - (m/K'_0)$, equ
result of substituting th
n for K/K_0 into the right
ne equation, equation 1
ities are

$$\frac{b}{g(P + a)} \tag{A'}$$

$$\frac{c}{(P + a) \log(P + a)} \tag{A''}$$

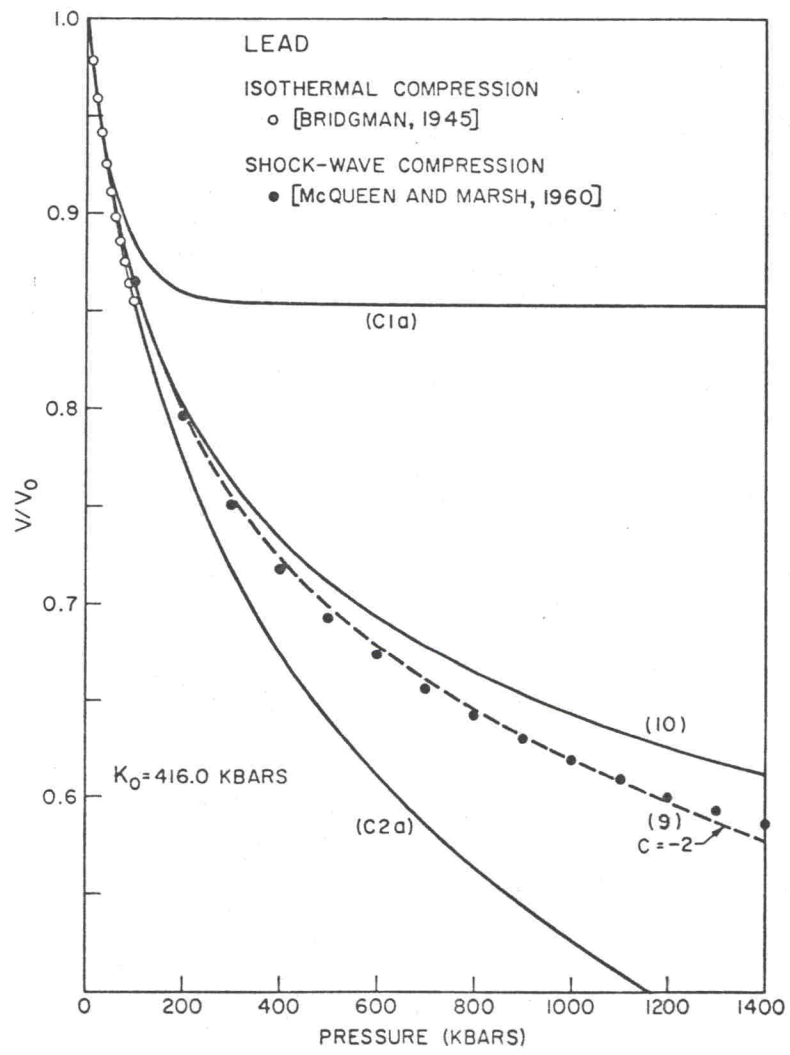


Fig. 7.