

Abstract Submitted
for the SHOCK05 Meeting of
The American Physical Society

Isentropic Compression Data on Lx-04 Explosive at 150 ° C Using the Z Accelerator DAVID E. HARE, KEVIN S. VANDERSALL, FRANK GARCIA, Lawrence Livermore National Laboratory, Livermore, CA 94550, JEAN-PAUL DAVIS, CLINT HALL, Sandia National laboratory, Albuquerque, NM 87185, JERRY W. FORBES, Center for Energetic Concepts Development, University of Maryland, College Park, MD 20742 — Isentropic compression data was collected on LX-04 explosive (85% HMX and 15% Viton by weight) at 150 ° C using the Sandia National Laboratories Z accelerator facility. A ramp compression wave was applied to the explosive samples mounted on aluminum panels with VISAR interferometry measuring the sample and backing window interface velocity. Heating was obtained by wrapping band heaters around a thermal mass attached to each panel and temperatures were recorded by thermocouples at several locations on the panel. This work will outline the methods used, discuss the VISAR interface velocities, and present the preliminary isentrope data obtained on heated LX-04. These results demonstrate the ability to perform experiments on preheated samples to obtain isentrope data. This work was performed under the auspices of the U. S. Department of Energy by the University of California, Lawrence Livermore National Laboratory under Contract No. W-7405-Eng-48.

Kevin Vandersall
Lawrence Livermore National Laboratory

Date submitted: 07 Apr 2005

Electronic form version 1.4