

Abstract Submitted
for the SHOCK11 Meeting of
The American Physical Society

Shock/reload response of water and aqueous solutions of ammonium nitrate MIKE MORLEY, DAVID WILLIAMSON, Fracture and Shock Physics, SMF Group, Cavendish Laboratory, JJ Thomson Ave., Cambridge, CB3 0HE, United Kingdom — The response of water and aqueous solutions of ammonium nitrate to shock loading, below 10 GPa, has been experimentally investigated. In addition to determination of the principal Hugoniot, equation of state data have been measured through “shock/reload” experiments using a gas-gun driven plate-impact. A Mie-Grüneisen type equation of state has been applied to the liquids under investigation. The effects of initial temperature, and of weight-percentage of ammonium nitrate, on the volume-dependent Grüneisen parameter are reported

Mike Morley
Fracture and Shock Physics, SMF Group, Cavendish Laboratory,
JJ Thomson Ave., Cambridge, CB3 0HE, United Kingdom

Date submitted: 18 Feb 2011

Electronic form version 1.4