Abstract Submitted
for the SHOCK15 Meeting of
The American Physical Society

Shock Compression of Simulated Adobe[1] C.H. BRAITHWAITE, University of Cambridge, P.D. CHURCH, P.J. GOULD, B. STEWART, QinetiQ, A.P. JARDINE, University of Cambridge — A series of plate impact experiments were conducted to investigate the shock response of a simulant for adobe, a traditional form of building material widely used around the world. Air dried bricks were sourced from the London brick company, dry machined and impacted at a range of velocities in a single stage gas gun. The shock Hugoniot was determined ($U_s = 2.26u_p + 0.33$) as well as release information. The material was found to behave in a manner which was similar to that of loose sand and considerably less stiff than a weak porous sandstone. The effect of any cementing of the grains was examined by shocking powdered samples contained within a cell arrangement.

[1]The research was funded by DSTL through a WSTC contract

C.H. Braithwaite
University of Cambridge

Date submitted: 30 Jan 2015 Electronic form version 1.4