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Shear strength and HEL's for various geological materials C.H. BRAITHWAITE, W.G. PROUD, J.E. FIELD, Cavendish Laboratory, Cambridge University, A.R. GUEST, De Beers Group Services — Previous investigations (Braithwaite, Proud and Field: SCCM 2005, pp1435-1438) into geological materials have shown that for some materials no change in slope is seen in the Hugoniot curve up to values of 10 GPa (depending on the rock type). These shock pressures are well above the expected elastic limits of the materials. There is some hysteresis seen in release curves above a certain stress level. By using the plate impact facility it was possible to measure the shear strength of the materials and determine region of the HEL. It is shown that the start of hysterestic behaviour in the release paths does not correspond to the HEL.

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