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Wave Propagation Through Copper Mountain Sandstone¹ NATHANIEL HELMINIAK, JOHN BORG, Marquette University — Copper Mountain sandstone samples of thickness varying from 0.6 mm to 2.5 mm, were tested in plane strain and pressure-shear configurations at impact velocities from 50 m/s to 200 m/s. Each plane strain test contained multiple sandstone samples so that differences in thickness can be compared any given shot. The particle velocity induced at the back surface of the sample was measured using a particle velocity velocimeter (PDV) system. Thus, the variations wave development as a function of sample thickness can be assessed. Pressure-shear experiments were performed in order to determine the strength characteristics of the sandstone samples. The dynamic experiments were simulated utilizing Peridigm and CTH and compared with experimental results.

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