

Abstract Submitted
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The Bactericidal Effect of Shock Waves JAMES LEIGHS, GARETH APPLEBY-THOMAS, DAVID WOOD, MICHAEL GOFF, AMER HAMEED, Cranfield University, PAUL HAZELL, The University of New South Wales — There are a variety of theories relating to the origins of life on our home planet, some of which discuss the possibility that life may have been spread via inter-planetary impacts. There have been a number of investigations into the ability of life to withstand the likely conditions generated by asteroid impact (both contained in the impactor and buried beneath the planet surface). Previously published data regarding the ability of bacteria to survive such applied shock waves has produced conflicting conclusions. The work presented here used an established technique, in combination with a single stage gas gun to shock load and subsequently recover *Escherichia coli* populations suspended in a phosphate buffered saline solution. Peak pressure across the sample region was calculated via numerical modelling, validated via Heterodyne velocimetry measurements. Survival data against peak sample pressure for recovered samples is presented alongside control tests.

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