

## **A 24-TON ANFO SIMULATION OF A NUCLEAR HOB EVENT OVER A THERMALLY REACTING SURFACE**

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This paper describes the planning rationale, test design, and data analysis for an HE field simulation of a nuclear HOB event. The test, called MINI SCALE, took place at White Sands Missile Range, PHETS site on October 1984. The primary purpose of the test is to provide data for the free field environment and loads on models fielded.

The merits of 4 techniques for altering the gas dynamic properties near the ground surface in order to create a precursed shock structure such as produced by a nuclear HOB event over real surfaces are discussed. These techniques fall into 2 categories; 1) Energy added through pyro-technical detonation or pyro-chemical deflagration, and 2) cold layer, high sound speed alterations through gas addition. Test results from MINI SCALE - a 24 T event employing the latter technique will be described.

Scaling issues, a 3D geometric flow field effects due to the limited extent of the layer deployment, gas dynamic property gradients in the layer and their effect on similitude, and special measurement requirements and problems encountered on this event are presented.