

## HOB EXPERIMENTS AND CHARGE DEVELOPMENT STUDIES

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Research studies of the interaction of reflected air blast with a non-ideal surface were carried out with a series of 1000 lb, HOB experiments. Included with the effort was the testing of candidate charges of a charge development program. The field testing was conducted at the HOB test facility on the range of the Defense Research Establishment, Suffield, during the fall of 85 and the summer of 86. The charges were detonated at a HOB of 19.8 ft over a rigid surface.

The instrumentation for the tests was the analog FM data acquisition system as deployed on past experiments of this size. PCB piezoelectric quartz pressure transducers were connected with line drivers and coupled by coax cabling to 500 kHz wide band II magnetic tape recorders to achieve response time of 1 to 2 msec. High speed cameras were used at various locations on the layout to observe the detonation and shock development, while the early time shock structure was observed by the laser photogrammetry technique.

In this paper the salient features of the charge development tests will be examined and the results of HOB experiments with a Helium layer discussed.