

RESPONSE OF BURIED MODEL STRUCTURES TO BURIED TNT EXPLOSIONS IN SAND

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To increase the understanding of the interaction between the ground shock wave from a near underground explosion and a buried structure, especially the front wall, a series of tests in model scale has been made.

Recording of the free field ground acceleration without any structure present. Variables: charge weight Q , distance r . A total of 20 events.

A "model shelter", a rigid steel frame with flexible walls was used as a target. The wall pressure, the wall acceleration and the wall deflection were recorded on the front wall, the rear wall and the bottom. Variables: Q , r , depth of charge. A total of 40 events.

A two piece structure, a heavy rigid body with only front wall movable was used. The front "wall" consisted of a springsuspended rigid plate intended to move like a single degree of freedom mass/spring system .

Variables: Wall mass, wall spring constant, distance. A total of 20 events.