

# **EFFECT OF SOIL PROPERTIES ON AN ABOVEGROUND BLAST ENVIRONMENT FROM BURIED BARE CHARGES**

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## **ABSTRACT**

This paper will describe the results of calculations of the loads delivered to an aboveground structure due to the detonation of an idealized cylindrical bare charge buried in three very different soil materials. The soil materials are represented by state-of-the-art constitutive models and represent a wide range of soil behavior, i.e., gravelly clay, clayey sand, and concrete sand. These computations were accomplished by using the Lagrangian meshless particle options in the 2006 version of the EPIC code. Modeling all material components as Lagrangian naturally simplifies the multimaterial interaction because the interface conditions among the explosive products, soil, and target are well defined and maintained.