

BLASTING AT OPERATING INTERNATIONAL AIRPORT

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ABSTRACT

At the Metropolitan Nashville International Airport, with its more than 600 scheduled daily flights from American Airlines hub operations, other scheduled airline flights, Tennessee Air National Guard operations, as well as numerous industry air flights, the excavation of 300,000 cubic yards of rock was required without disrupting airport operations for a cut and cover underground tunnel with a 4 lane US Highway and new airplane runway to extend across it's top. In addition to the excavation, the removed rock was to be broken to specification type that was clean and of small size for fill in another area of the airport property. The blasting was limited to two 1/2 hour windows per day and stiff monetary penalties were in place for schedule slippage of each phase of the project.

In addition to the massive production blasting required for the open cut tunnel excavation, other types of blasting including pre-split, pipe trench, footing, drainage excavation, and near fresh concrete blasting were included. The strictest enforcement was included of no rock throw incidents, attention to public relations, and no vibration damage to the adjacent facilities which included an airplane hanger, tarmac, and offices as close as 125 feet from the 35 feet deep production rock cut for the tunnel.

The techniques and blasting shot designs, types of explosives and precaution are discussed for the successful accomplishment of this project by the contractor, Rogers Group, Inc., and the excavating subcontractor, Lojac Enterprises, Inc., and their "blaster in charge" David Walker, with the assistance of Earl C. Hutchison, P.E. and Wade C. Hutchison of VCE, Inc. Vibration Control and John Loviza of Hermitage Explosives-IRECO Distributor.