

# **THE EFFECT OF WATER TABLE ON PEAK PARTICLE VELOCITIES FROM BLASTING OPERATIONS**

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## **SYNOPSIS**

A large open-cast limestone mine had its blasting operations severely restricted by the imposition of limiting PPV levels to protect a water pipe-line passing through the mine property. Attempts were made to measure the strains induced in the pipe by ground vibrations, so that a less restrictive blasting limitation could be established on a scientific basis.

While efforts to measure strains in the pipe were in progress, the ground constants for the mine area changed as it was dewatered, and the need to ease the limitation on blasting was removed.

A change in the level of the water-table can have a significant effect on the PPV of the ground vibration produced by a blast. Mines may be able to take advantage of this phenomenon to reduce PPV levels by lowering the water-table, or, they may have to take steps to counter-act the rise in the water-table in order to maintain acceptable PPV levels.