

SWEDISH CAUTIOUS BLAST EXCAVATION AT THE CSM/ONWI TEST SITE IN COLORADO

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ABSTRACT

Swedish cautious blasting techniques were used to excavate a room at the CSM Experimental Mine in Idaho Springs, Colorado, as part of a ONWI/DOE sponsored nuclear waste disposal research program.

For many years the Research Program of the Swedish Detonic Research Foundation has paid special attention to the examination and minimization of unwanted rock damage due to blasting. Such damage increases the disturbance to rock mass continuity and support costs.

In the excavation of the research facility using the Swedish cautious blasting technique, special attention has been placed on minimizing the disturbance of the hydrological, thermal and mechanical properties of the surrounding rock. The structural geology of the mine has been mapped and the magnitude of the blast damage evaluated by the Colorado School of Mines.

The technology used for excavation can easily be applied in mining and civil engineering practice to decrease waste rock excavation and reinforcement costs.

This paper reviews the blasting procedure and the results from the test facility.