

**A N N R A N R A N
D N N**

Peter Leinberger, Open Pit Mine Engineer
INCO Limited - Manitoba Division
Stephen H. Chung, Manager, Blasting Technology Development
ICI Explosives Canada
Nan Lee, Mines Research Blasting Engineer
INCO Limited - Manitoba Division

A RA

INCO Limited's Thompson Open Pit has researched extensively into improved blasting techniques towards increased productivity as well as optimum pit wall protection. Blasting with excessive amounts of explosives near the pit wall can induce severe back-break, new cracks and opening-up of existing joints in the wall. These ill effects can reduce the wall slope stability and restrict mining activities.

This paper reviews various blasting techniques which have been researched at the Thompson Open Pit to control over-break. Discussed are the design principles of cushion blasting, buffer blasting, presplitting, and air-decking. Case studies are presented detailing the use of these methods. Examples are given for calculating decoupled charge load in large diameter boreholes.