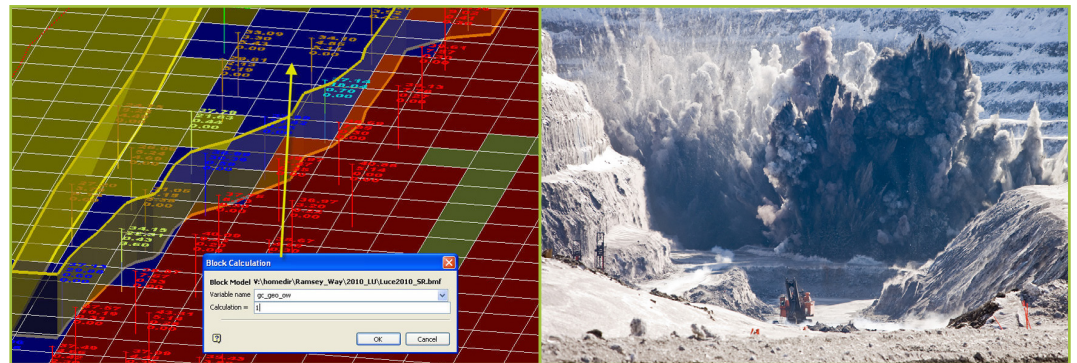


Short Range Planning Improvements

Iron Ore Company (IOC) has implemented new geology models using Maptek Vulcan™ grade control and block modelling tools.



Ore blocks flagged as waste

IOC blasting operations

'VULCAN HAS PROVIDED IOC WITH A SOLUTION TO IMPROVE OUR SHORT RANGE PLANNING PROCESS AT NO EXTRA COST OVER OUR EVERYDAY QUALITY CONTROL SYSTEM.'

Ramsey Way, IOC

More accurate short range mine plans are produced by incorporating physical parameters from diamond drilling combined with chemical analysis and ore waste interpretation from more densely populated blastholes.

IOC is Canada's second largest metal mine, majority owned by Rio Tinto. It began mining the orebodies near Labrador City in 1962 and currently employs more than 2000 people in Newfoundland, Labrador and Quebec.

The production equipment at the mine includes 6 loading units, 30 haulage trucks and 8 rotary drills. Annual capacity is 39 Mt of crude ore, 60 Mt of total mined material, 17 Mt of concentrate and 13 Mt of pellets.

IOC has been using Vulcan since 1998 for grade control, modelling, pit design, blasting, survey and other mine planning and geological processes.

The geology is folded and typically well understood and predictable. However, more complex areas within the Luce deposit have many unexpected structural challenges which cause large deviations from plan, making a blasthole short range block model essential for short range planning.

Updated geological reserve block models are created from resource and infill diamond drilling and blasthole mapping conducted twice a year. The models are then manipulated using Vulcan to add grade control variables which are created from blasthole assays, and to subtract parameters which are not used in the short range planning process.

Using a simple .csh file and command editor all the parameters can be adjusted at one time, creating the basis for the new short range model.

All the blasthole assay results from a particular bench are loaded into the Isis database. A mini block model is created for each bench using grade control, similar to the blast grading procedure.

The model is flagged based on the blasthole geology using the block calculation, selecting particular triangulations if the geology is different from the resource model.

IOC now has a dynamic geology model with new blasthole information for incorporation into the mine scheduling program.

This has assisted IOC to create and implement more accurate short range plans while understanding mill requirements and mining sequence options when geological surprises occur.

Using Vulcan software and future technology, IOC will continue to strive to achieve a self-reliant short range model that will not require expensive diamond drilling information to produce functional and precise short range mine plans.

*Thanks to
Ramsey Way
Senior Geologist, Ore Control
Iron Ore Company*