MAPTEK™ Vulcan™

PIT OPTIMISER

Vulcan Pit Optimiser integrates with Vulcan block modelling tools to help determine the optimum pit design.

HOW DOES IT WORK?

INPUT

Pit Optimiser works with block models, using the Lerchs & Grossman or Push and Relabel algorithm to determine if a block is mineable and to develop the optimum pit design.

The only input required is tonnage and grade information.

Pit Optimiser provides different options for Financial, Optimisation and Analysis scenarios.

Financial

> Consider selling, processing and mining costs
> Apply discount rates
> Include a range of cutoff grades
> Account for recovery percentages

Optimisation

> Lerchs & Grossman or Push and Relabel algorithms
> Specify the block model variable for storing the optimisation results
> Perform multiple pit analysis using revenue and cost factor increments

Analysis

> Establish global parameters for analysis including different bench lags
> Create different cash flow scenarios

OUTPUT

Once the chosen data inputs are entered, Pit Optimiser determines if the block is mineable according to your specifications.

Data can be exported in the following ways:

> Generate reports and charts in Excel
> Choose from three reporting methods - Best Case, Worst Case or Bench Lag
> Generate optimised pit shell strings for mine planning

YOUR QUESTIONS ANSWERED

What algorithms are available for optimisation?

The Lerchs & Grossman or Push & Relabel algorithm can be used to help determine if a block is mineable or not.

How is the geotechnical environment specified?

Varying slope angles in different regions are used to specify the geotechnical environment. These can have any shape and can be specified as polygons, complex 3D triangulations or from the block model itself.

How does Pit Optimiser handle complex deposits?

Geological contaminants are used to improve the optimisation process in complex deposits.

Can Pit Optimiser generate pit by pit graphs?

Yes. Pit by pit graphs are easily generated with the analysis function in the reporting section.

BENEFITS

1. Enjoy the benefits of a traditional pit optimisation algorithm with powerful 3D graphics.
2. Push & Relabel algorithm introduced in Vulcan 9.1 provides significantly faster processing.
3. Understand the value of the deposit without having to export data to third party software.
4. Quickly re-evaluate mine plans in changing economic conditions.