DATAMINE

STUDIO MAXIPIT

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Rapid economic pit optimisation for resource geology

Studio Maxipit converts your block model and economic plus geotechnical assumptions into an economic pit envelope, nested pits and extraction sequences. This allows geology teams to quickly constrain resources, test scenarios, and communicate value with confidence.

Who uses Studio Maxipit

- Resource Geologists
- Exploration Geologists
- Geology Managers
- Mine Planning Teams (for rapid pit shells)



KEY BENEFITS

As part of the Studio NPVS product family, Studio Maxipit provides a foundation workflow for geology teams to move from resource models and economic assumptions to pit optimisation, nested pit shells and scenario evaluation.

Core CAD Functionality

Built on Datamine Studio's core platform, Studio Maxipit includes comprehensive CAD functionality for modelling, wireframing, string editing and managing geological design data in the same optimisation environment.

Economic Modelling

Calculate overall block values for multi-metal deposits using revenues, costs and recoveries. Multiple rock types and processing methods are supported, all using spreadsheet-style formulas.

Pit Optimisation

Generate ultimate pits and nested shells using the Pseudo flow method with multiple sequencing options. Create resource-based blended pits and sequences for blending objectives.

Geological Risk Assessment

Import conditional simulations to generate risk-rated pits and probability distributions of profit and contained/recovered metal.

Automated Sensitivity Analysis Tool

Easily set up economic and pit design parameters to analyse potential risks and opportunities related to varying or uncertain financial or engineering inputs. Use multiple cores to compute numerous pits in parallel.



GEOLOGY WORKFLOW

From resource model to economic pit envelope — in a repeatable, scenario-driven workflow.

01

Prepare geological inputs

Import a block model defining geological and geochemical properties, plus topography and surfaces. Optionally use property/lease boundaries, or infrastructure costs, to constrain resource pits.

02

Build the economic model

Define metal prices, mining and processing costs, and recoveries. Calculate block-by-block values across multiple products, rock types and processing methods using spreadsheet-style formulas.

03

Optimise pits and sequences

Define overall slope angles for multiple geotechnical regions with rosettes. Generate a Pseudo flow ultimate pit with nested pit shells and an NPV-maximising extraction sequence. Run blended pit optimisation to produce a resource-based optimal blended pit and extraction sequence.

04

Review, report and export

Visualise pit surfaces and intermediate pits from optimisation sequences. Produce bench reserves, grade curves and pit-by-pit summaries in built-in spreadsheets, then chart and export results for downstream workflows. Export pit surfaces, optimised model, tabular reports and charts.



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