



Underground Engineering Module

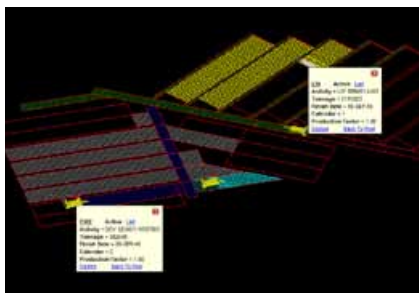
To address the needs of the growing number of underground mines being developed globally, the Gemcom MinexTM Underground Engineering module gives mining engineers the tools to develop effective mine designs, accurately calculate reserves, and schedule the mining of reserves in a highly efficient manner.

The Underground Engineering module allows you to utilise mine design tools specifically developed for mining methods used in coal and other relatively flat lying underground ore bodies. Thanks to full integration with Minex's other geology and mine planning tools, mining engineers can quickly and easily develop mine design options that take complex geological factors, such as the presence of faults, into consideration. Different design options can then be evaluated accurately before resources are committed to production.

By automatically calculating reserves for each panel in the mine design directly from your gridded seam model, this module effectively eliminates reliance on spreadsheets and manual calculations.

Multiple scheduling scenarios can be quickly developed using a set of interactive tools which provide you with the means to decide on the most effective alternative, optimising equipment within the constraints of your selected mining precedence.

As an added benefit, you are able to



An underground mine design displaying the pillars as well as the boundary lines.

generate reports for the reserves and the individual mine components such as pits, panels, and working types in addition to scheduling reports which provide details on equipment sequencing and production.

Features:

→ Design and draft underground mines.

Use the Underground Quick Layout tool to rapidly create and edit regular and symmetrical mine designs for either longwall or bord and pillar layouts, based on previously defined panel configurations and working types.

→ Visualise design layouts. Utilise rich and interactive tools which provide instant visualisation of your design as it progresses. Display your design in 3D and colour each panel block based on a single colour, working type or quality variable.

→ Automatically generate reserves. Calculate accurate reserves based on the mine layout and seam properties and then generate customised reports.

→ Schedule interactively. The Minex environment enables interactive scheduling with point and click simplicity and the ability to view animated schedules to display bottlenecks, downtime, resource allocation and workflow feasibility.

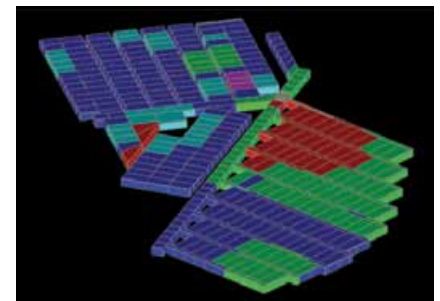
→ Flexible reporting. Run predefined and customised reports and export data to third party programs for follow-up analysis.

Benefits:

→ Evaluate different mine design options. Alternative designs can be created quickly, allowing mining engineers more time to perform technical evaluations of layout options.

→ Save time. Libraries of common

Gemcom Minex provides the best geology and mine planning tools for coal and other stratified deposits, ensuring resources are evaluated accurately and mined efficiently.



3D Display of an underground mine design showing reserves coloured according to quality.

layouts can be visually created and stored for use in future mine designs.

→ Eliminate human errors. Automatic calculation of reserves reduces reliance on spreadsheets and manual calculations.

→ Lower economic risk. Reserves are calculated accurately, allowing mine designs to be optimised for the most cost efficient extraction. Easy-to-use tools mean mine designs can be created in-house, saving time and reducing costs.

For more information email minex@gemcomsoftware.com or visit www.gemcomsoftware.com/minex.

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