

Mine Planning / Resource Modelling
Gemcom Minex 6.1



Gemcom boosts mine productivity

From geological considerations to mine design and reserve calculations, the many aspects of planning and scheduling a mine for coal, or other stratified deposits, present numerous challenges for professionals.

Performing all of these estimations is no small feat, and this is where Gemcom Minex comes in.

With its unique seam-modelling and its complete, fully integrated end-to-end system, Minex is the only mining software designed specifically for coal and other stratified deposits such as phosphate, bauxite and platinum.

Gemcom Software International, the largest global supplier of mining software, is dedicated to providing innovative and targeted solutions to the challenges faced by the industry.

Working in partnership with mining professionals, Gemcom has developed the industry's leading geology and mine-planning software in Minex.

Integrating all aspects of mining, from exploration through to rehabilitation, Minex ensures resources are evaluated accurately and mined efficiently, thus improving productivity and profitability throughout the mining life cycle.

As an all-in-one solution, Minex offers a lower cost of ownership by reducing training costs and limiting the number of complex software packages that users are required to learn.

Additionally, as all data is within one system, Minex reduces the chance of error by eliminating the need to transfer data between multiple types of software.

The availability of reliable data vastly improves an operation's investment decision making, and the ability to make well-informed decisions lowers economic risk. Minex gives certainty in the accuracy

Resti Natalia Ginting, mining engineer with PT Bukit Asam (Persero) Tbk, says of Minex: "One of the great things about Minex is that it enables us to make informed decisions on mine-planning strategy, based not only on technical data, but also on economic conditions. We can, for example, optimise our pit designs, choosing the ones that are best suited to our profit strategy and to market conditions."

He adds: "We have realised significant time and cost savings because Minex enables us to do our jobs faster.

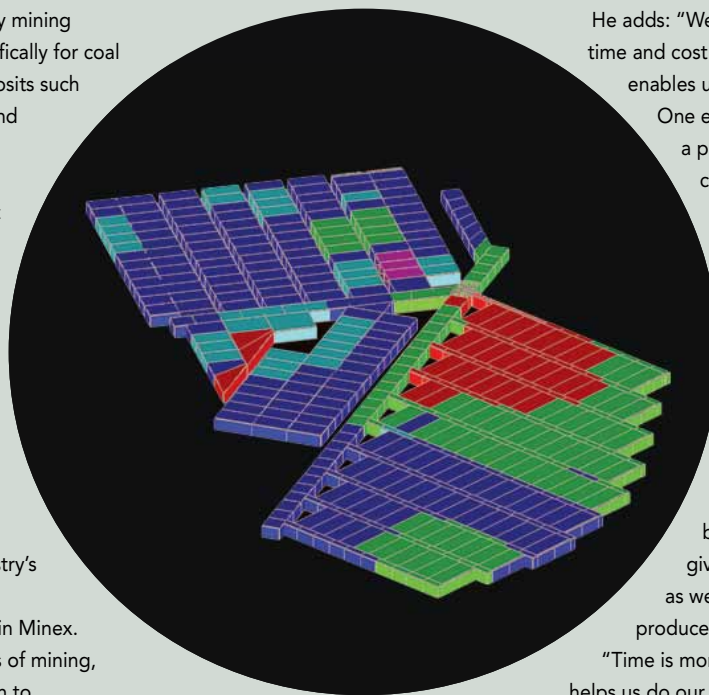
One engineer can accomplish a pit design in hours, compared to months without the software."

Minex user Steven Sides, vice-president of technical services for Carbones del Cerrejón, says:

"Minex helps Cerrejón develop effective mine plans that can be utilised to make prudent business decisions. It gives us an important edge as we compete with other producers around the world.

"Time is money. Any software that helps us do our job faster and more thoroughly will deliver a competitive advantage. I don't think any of the software that goes up against Minex would allow us to perform the modelling and planning in that same timely manner."

The release of Minex 6.1 in late 2011 brought significant enhancements, most notably it featured a new Underground Engineering module with



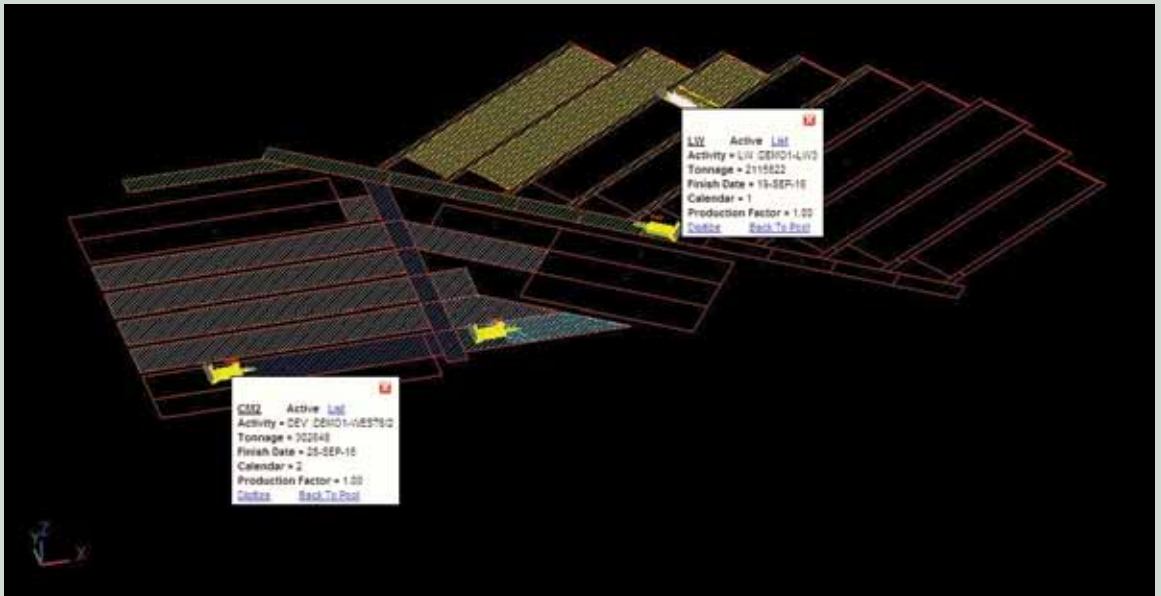
of available reserves, allowing the most cost-effective method of extraction to be determined.

Minex also features a 3D design environment, which makes it easy to visualise the viability of a design, allowing for an accurate and technical evaluation of various layout options before resources are committed to production.

"We have realised significant time and cost savings because Minex enables us to do our jobs faster"

3D display of an underground mine design, showing reserves coloured according to quality

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



“Users can develop design options that take complex geological factors, such as the presence of faults, into consideration”

reserve calculation, design and scheduling components.

Having recognised that the significant number of underground coal mines around the world is increasing, and therefore the requirements of the

engineers planning and designing coal mines are changing, Gemcom expanded the capabilities of Minex to ensure it is best serving the needs of the industry.

“The Underground Engineering module can be applied to any stratified deposit,

and enables mining engineers to quickly and easily create different mine design options, and evaluate them accurately.

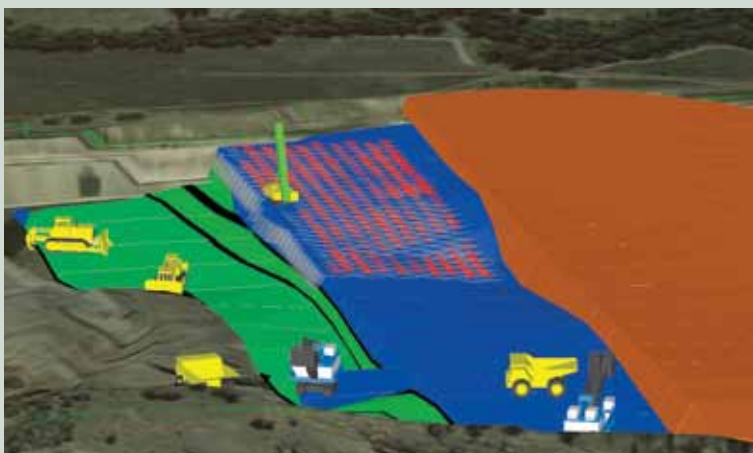
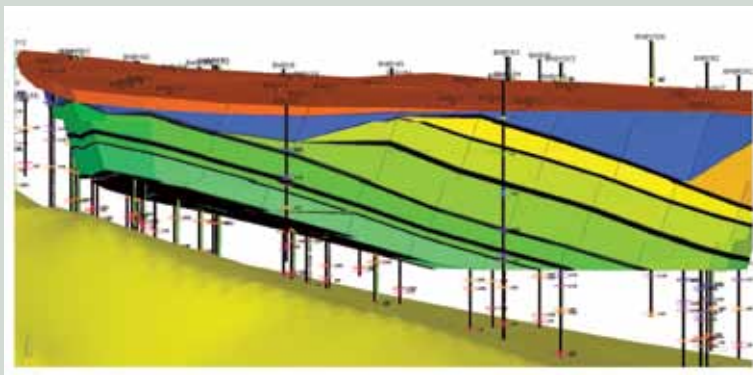
“Since the module is fully integrated with Minex’s other geology and mine-planning tools, users can develop design options that take complex geological factors, such as the presence of faults, into consideration,” explains Ben Farquharson, director of Gemcom’s Minex Business Unit.

He continues: “By automatically calculating reserves for each panel in the mine design directly from the gridded seam model, this module effectively eliminates reliance on spreadsheets and manual calculations. As an added benefit, Minex will generate reports for the reserves and individual mine components such as pits, panels and working types.”

“I am very proud of everything we have achieved with Minex. Not only have we demonstrated our innovation and market leadership with our new underground tools, we have also created many enhancements to usability across the entire product.

“The latest version of Minex is just another step in our journey to continue to transform how companies add value to their business by giving them the tools required to improve geological modelling, interpretation and mine planning,”

Mr Farquharson concludes.



Detailed interactive schedule progressing with overburden blast design