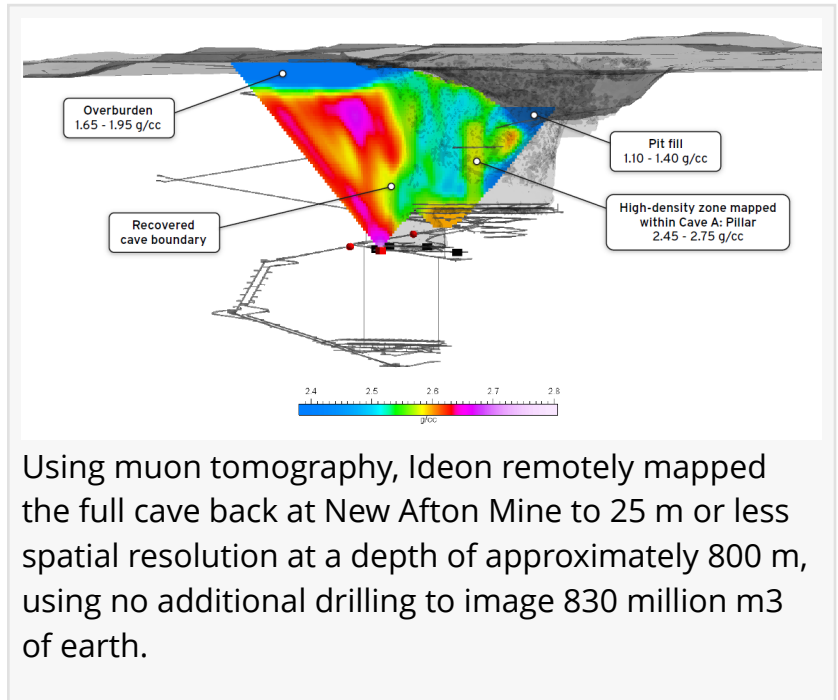


World First: Ideon Launches REVEAL™ for Caving, In-Mine Monitoring & Modelling Solution

High-resolution subsurface intelligence creates unparalleled visibility and drives productivity — safely.

VANCOUVER, BRITISH COLUMBIA, CANADA, September 18, 2024 /EINPresswire.com/ -- Canadian subsurface intelligence leader [Ideon Technologies](#) introduces its supernova-powered solution for block cave monitoring and modelling, presenting proven results from the world's first muon tomography deployment in a block cave environment at the International Mass Mining Conference and Exhibition (MassMin) in Kiruna, Sweden this week. The REVEAL™ for Caving solution allows mining companies to remotely monitor progression of cave propagation to support operational performance and safety, while reducing geological uncertainty in understanding the rock volume surrounding the cave.



Using muon tomography, Ideon remotely mapped the full cave back at New Afton Mine to 25 m or less spatial resolution at a depth of approximately 800 m, using no additional drilling to image 830 million m³ of earth.

“

We've now seen first-hand what this breakthrough technology can bring to block caving sites like New Afton.”

Corey Kamp, Director, Mining and Rock Mechanics, New Gold

Ideon has been working with the team at [New Gold's](#) New Afton Mine – the only operating block cave mine in Canada – since early 2024 to reduce this uncertainty and enhance their understanding of cave shape and behaviour. New Afton is a gold and copper mine located near Kamloops, BC with an alkalic porphyry-style copper/gold deposit ideally suited for mining with the block caving technique. Block cave mining is increasing worldwide as a way of extending the life of open pit mines where near-surface ore has been depleted. It allows mining companies to

reach large, lower-grade deposits deep underground, achieving high production rates at a

fraction of the operating cost and environmental impact of conventional surface mining methods.

The block caving method involves undermining an ore body and allowing it to collapse under its own weight. The broken ore then falls into funnels (drawbells) built underneath the caving zone, where it is then extracted. The

technique comes with a set of unique challenges, including stalling of progressive caving, addressing blockages, reliably predicting orebody cave-ability, understanding cave propagation (without having direct access to it), and managing ore flow. Incumbent methods of monitoring caving activity are imprecise and rely on extensive interpolation, resulting in high levels of uncertainty for mine operators.

The Ideon team worked with New Gold to install the world's first muon tomography-based block cave monitoring solution in the operating B3 zone at New Afton, with a goal of delineating the full 3D extent of the target cave, mapping heterogenous density variations in cave zones, and measuring any observed temporal changes in both rock flow and cave extents. Ideon mapped the full cave back to 25 m or less spatial resolution at a depth of approximately 800 m, using no constraining information and no additional drilling to image 830 million m³ of earth. [A full case study is available online.](#)

“We’ve now seen first-hand what this breakthrough technology can bring to block caving sites like New Afton. It is a technology that integrates well into the industry standards for cave monitoring as it can lead to improved resolution of the cave shape, resulting in a better three-dimensional understanding of operational performance and safety,” says Corey Kamp, Director, Mining and Rock Mechanics at New Gold.

Ideon harnesses the energy from supernova explosions in space to image deep beneath the Earth's surface. Using sub-atomic particles called muons, Ideon creates high-resolution 3D density models that help geologists identify, map, characterize, and monitor mineral deposits, subsurface voids, caves and other geological structures across the full mine life cycle – from exploration to reclamation.

“We’re introducing a game-changing new solution for the caving sector worldwide,” says Gary Agnew, CEO & Co-Founder at Ideon Technologies. “Over the past year, we have been working with multiple mining companies to accelerate the development of our capabilities in caving, prove the value that we can deliver to these challenging operations, and now to launch our REVEAL™ for Caving solution.”

“By combining data collected from muon detectors deployed in multiple locations in-mine, and

The logo for Ideon Technologies, featuring the word "ideon" in a lowercase, sans-serif font, followed by three vertical orange bars of varying heights to the right, and a small "TM" trademark symbol.

employing our unique inversion algorithms, we can directly infer the dynamic nature of structures such as the cave back, air gap, and top of muck pile surfaces on time scales valuable to mine operations," adds Nigel Phillips, Director Geosciences at Ideon. "Our solution measures the entirety of the cave to a high spatial resolution, allowing mine operators to manage hazards proactively; improve ore recovery and production predictability; and reduce operational risks."

The Ideon REVEAL™ Platform – now available for Exploration, Geotech, Resources, and Caving – is a subsurface intelligence solution that comprises proprietary hardware (that delivers a new-to-the-world data source) ruggedized for the most demanding of noisy in-mine environments, software, integrated imaging systems, and advanced data analysis and interpretation. Ideon also offers patented multi-sensor fusion capabilities that enable seamless data collection and integration from our proprietary sensors and third-party data. Ideon's AI-powered workflow transforms the geological model into a high-resolution dynamic Earth model to inform ongoing operations.

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About New Gold (www.newgold.com)

New Gold is a Canadian-focused intermediate mining company with a portfolio of two core producing assets in Canada, the Rainy River gold mine and the New Afton copper-gold mine. New Gold's vision is to build a leading diversified intermediate gold company based in Canada that is committed to the environment and social responsibility. New Afton Mine, located near Kamloops, BC, is currently the only operating block cave mine in Canada.

About Ideon Technologies (www.ideon.ai)

Ideon Technologies uses the energy from supernova explosions to image deep beneath the Earth's surface. A spin-off from TRIUMF (Canada's particle physics lab), Ideon is a world pioneer in cosmic-ray muon tomography. By transforming muon data into reliable 3D density maps, Ideon helps geologists identify, map, characterize, and monitor geological features with confidence. This reduces risk and cost of traditional methods, while saving time, optimizing return, and minimizing environmental impact across the mining value chain. In turn, this is helping accelerate the world's transition to low- impact mining and transform how companies find the critical minerals required to power the global shift to clean energy.

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