

## The world of mining coming together

Minefill 2007 is being held in conjunction with the CIM Conference and Exhibition, the annual mega-event of the Canadian Institute of Mining, Metallurgy and Petroleum, at the Palais des Congrès of Montreal. Participation in Minefill 2007 includes access to the CIM Exhibition, Canada's premier mining event, host to over 200 exhibitors who are more than happy to help participants realize their goals at their operations. There's more—the guest and social programs are also part of the Minefill experience, promising terrific opportunities to get to know colleagues and experience the joie de vivre that is the heart of Montreal.

Three field trips to world-class operations are available as well. On May 3, immediately following the Minefill symposium, grab the opportunity to visit Agnico-Eagle's LaRonde operations and Xstrata Nickel's Raglan operation, or Xstrata Copper's Kidd Creek operation and Xstrata Nickel's Montcalm project. These mines are under expansion, reaching new depths for the Canadian industry.

Join other professionals involved in mining operations, plant manufacturing, and research to discuss the top issues concerning minefill while enjoying the exciting nightly events and plentiful networking lunches of the CIM event.

Registration includes the Minefill technical program, three luncheons, the Sunday Meet-and-Greet, Tuesday banquet, and Wednesday closing lunch, as well as all coffee breaks. Minefill delegates also have full access to the CIM Conference and Exhibition (including the CIM technical program, the CIM Exhibition, the opening reception, and P&H reception). Registration is available on [www.minefill2007.com](http://www.minefill2007.com)

## Innovations and Experience in Minefill Design

Minefill 2007 will bring the leading global expertise on minefill to Montreal this spring. Over 40 presentations will divulge the state-of-the-art technologies that are being applied to minefill operations. Topics that will be covered include material preparation, new additives and binders, plant design and optimization, transportation, placement techniques, and physical and mechanical behaviour in both laboratory and in-situ settings. Special sessions will introduce case studies from various medium to large size operations.

The Canadian Institute of Mining, Metallurgy and Petroleum (CIM), together with McGill University of Montreal and Queen's University of Kingston (Ontario) are proud to host this world-class event to promote best practices in minefill.

The Minefill 2007 theme, Innovations and Experience in Minefill Design, is appropriate to Canada, one of the leading nations in the development of mining technology and mining activity. Come to Montreal and join the forum for the engineering profession to share its experiences and exchange ideas with local and overseas experts in backfill applications. At Minefill 2007, visions for achieving a better backfill design environment for tomorrow's mines will be outlined. It's an opportunity to explore the latest advances covering technical development trends, the comprehensive utilization of mineral resources, and environmental protection in mining.



## The 9<sup>th</sup> International Symposium in Mining with Backfill

APRIL 29 TO MAY 2, 2007  
MONTREAL, QUEBEC, CANADA

## *Innovations and Experience in Minefill Design*



# Minefill 2007 Preliminary Technical Program presentations at a glance

## MONDAY

### Backfill Design and Stability I

- Integrating the use of neural networks in paste backfill design at Cannington mine
- In-situ monitoring of cemented paste backfill for improved mine design
- The effect of effective stress on mine backfill placement mechanics
- Engineering design of backfill systems in undercut mining

### Backfill Characterization I

- Early age development of cemented pastefill
- The settlement properties of tailings modified by flocculants in the Shizhuyuan mine of China
- Hydraulic fill research at James Cook University in the new millennium
- Research on the optimal proportion of cemented filling materials and its strength forecasting
- Rheological characterization of cemented paste backfill
- Yield stress measurement of cemented and non-cemented paste backfill with the Vane method and slump tests

### Backfill Distribution Systems

- The operating range method for mine backfill hydraulics calculations
- Theory and practice in cemented filling with unclassified tailings structure fluid
- Backfill pipeline distribution systems—design methodology review
- Innovative CRF batch plant design at the Leeville mine, Nevada
- A study of crude tailings backfill technology based on a vertical sand silo

### Backfill Design and Stability II

- Paste backfill responses in deep mine temperature conditions
- Cemented rock fill at the Doe Run Company 1991-2006
- Effect of overlying load on exposed backfill block in underground mines
- Mining-induced stresses and rock stability in open stoping with backfill methods in rockburst-prone ground

## TUESDAY

### Green Backfilling Applications

- Use of industrial wastes as sustainable materials in paste backfills in mining
- The effect of disposal methods on the environmental properties of surface paste tailings
- Integrated sulphidic mine tailings management using environmental desulphurization and cemented paste backfill
- Study of the leaching behaviour and metal fixation within cemented paste backfill materials

### Impact of Backfill on Mine Safety I

- Operating experience with paste barricades at Mine X
- Water table management in hydraulic fill masses
- Paste backfill bulkhead monitoring—a case study from INMET's Cayeli mine, Turkey
- Use of fibre-reinforced shotcrete fill retaining walls

### Backfill Characterization II

- Evaluation of the effect of mixing method, sequence, and time on the properties of Gelfill
- Investigation of cementitious phases in cemented paste backfill by scanning electron microscopy and X-ray dot mapping
- Hydro-geotechnical and geochemical properties of self-weight consolidated paste backfill
- The effect of effective stress on mine backfill strength

### Impact of Backfill on Mine Safety II

- Determining fill fence stability and backfill characteristics during increased backfill rates at an underground hard rock mine
- Boulby mine backfill system: operational experience
- Sudden slumping of hydraulic fill due to high rates of rise during filling
- High strength aerated cement bulkheads
- Advancing minefill barricade design using numerical modelling

## WEDNESDAY

### Rockmass/Backfill Interaction

- Research on damage and catastrophe of cemented tailings backfill
- The response of cemented mill tailings backfill to shockwave loading
- Numerical investigation of stress distribution in backfilled inclined stopes
- Numeric model of a cemented rockfill span test at the Turquoise Ridge mine, Golconda, Nevada, USA
- Stability analysis of horizontal and vertical pastefill exposure at the Raleigh mine

- Factors that affect cemented rockfill quality
- Monitoring the stability of a backfill span test at the Turquoise Ridge mine

### Backfill Binders and Transport

- Hydraulic calculation of the gravity pipeline transportation system of cemented coal gangue backfilling in the Suncun mine, China
- Free fall reticulation system at LionOre Black Swan nickel mine
- Integrated sulphidic mine tailings management
- Strength development and characteristics of sodium silicate-fortified sand pastefill: the effect of binder content, sodium silicate concentration, and pulp density
- Site experiments of a dense tailings continuous backfill system at Dongguashan mine
- CALSiFrit: a new performant alternative binder for mine backfill: case of LaRonde mine
- The application of post-consumer glass as a cementing agent in mine backfill

### Industrial Case Histories

- Design of backfill and grouting systems used as support in Polish mines
- David Bell mine underhand cut-and-fill sill mat test
- Optimized paste backfill for the Lisheen mine
- Application of minefill at Barrick Gold
- Backfill methodology for raisebore mining at McArthur River Operation—uranium mine
- Optimization and improvement of paste backfill Iscaycruz mining unit
- Design of hydraulic backfill bulkheads at South Deep Gold mine
- Backfilling in the potash industry

### Failures, Safety, and Surface Disposal

- Investigation of near-surface exchange processes in exposed paste tailings
- The challenge of cyanide: can backfilling with gold tailings be consistent with the requirements of the international cyanide management code?
- A review of some recent backfill retaining wall failures
- The use of fibre-reinforced shotcrete fill retaining walls with engineered drainage system to achieve safe and efficient hydraulic fill placement in underground voids
- Introduction of and experience gained with cemented hydraulic fill at the Gossan Hill mine, Western Australia

For more details on the technical program, visit [www.minefill2007.com](http://www.minefill2007.com)