

UnderMINE 2010

Underground Operators' Summit

28-29 JUNE 2010 | ESPLANADE HOTEL FREMANTLE WA
Preparing for the new resources boom Down Under

UnderMINE will provide a yearly helicopter tour of the pressing issues affecting underground mines, keeping operators up to date.

This new summit will provide a channel for networking and information sharing between underground miners, with a strong focus on hands-on examples, allowing operators to learn practical skills from their peers which they can apply directly to their work.

Featuring industry leaders and key government representatives including:

- Rick Carter, Site Business Manager, Newmont Waihi Gold, Newmont Asia Pacific
- Alberto Diaz, Mine Planning Engineer, Cannington Mine, BHP Billiton
- Fernando Fernandez, Argyle Underground Project, Rio Tinto
- Simon Ridge, Director Mines Safety, State Mining Engineer, Department Of Mines and Petroleum, WA
- Johan Booyse, Advisor, Hazards – Extractives, Department of Labour, New Zealand
- Derek Hunter, Chief Executive Officer, Mining Industry Skills Centre
- Wouter Hartmann, Principal Geotechnical Engineer and Director, Geohart Consultants Pty Ltd
Ground support expert and shotcrete pioneer
- John Spreadborough, National Technical Executive Materials Handling, Parsons Brinckerhoff
- Charles Dornan, Lecturer, Mining and Geoscience, Central Institute of Technology
Presenting a site tour of the CUT simulated underground mine

Official Media Partners:



TO REGISTER CALL NOW!

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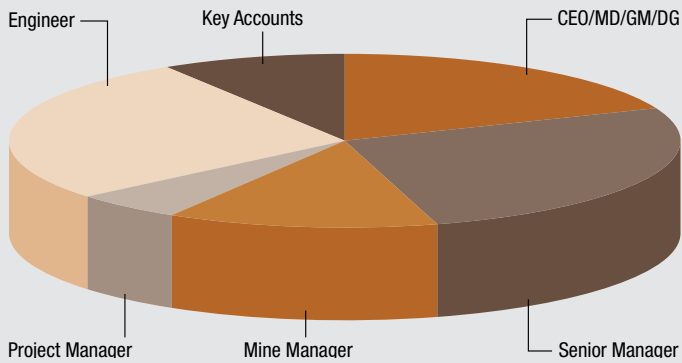


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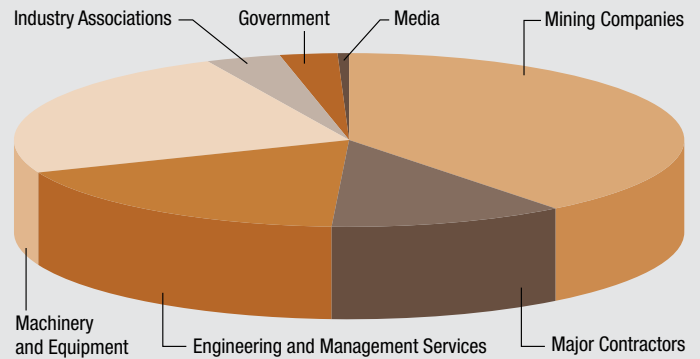
UnderMINE 2010

Attendee break down for our underground mining events

Delegate Profile by Job Title



Delegate Profile by Industry



Official Media Partners:



HIGH GRADE
DRILLING DEEPER FOR THE NEWS

What delegates have said about our past underground mining events?

“ ”

“It was informative, it was well presented, and it was relevant to my line of work”

“Broad range of subject matter relevant to the future of the industry”

“Varied speakers from different parts of Australia and their experiences in differing situations”

“I was exposed to other peoples’ experiences and knowledge”

“It provided an excellent opportunity for networking”

“You get to see what other mines are doing”

Sponsorship and Exhibition Opportunities

UnderMINE will form part of IIR’s Operational Excellence Series, which has been running since 2005 with the support of companies such as Rio Tinto, BHP Billiton, Xstrata, Vale, Codelco, Norilsk and Barrick Gold. Other flagship events in the series include our annual underground coal mining forum, Longwall, which attracts over 300 delegates each year and is the major gathering for Australia’s underground coal mining community.

Being aligned with these major industry events our sponsors are provided with unprecedented cross-market branding opportunities that other conferencing organisations cannot provide.

Our goal is to establish long term relationships with our sponsors. Long-term relationships can only be built and maintained if the sponsorship packages sold are effectively fulfilled and our sponsors gain optimal service, branding, exposure and networking opportunities.

Would your organisation like to join the growing number of satisfied sponsors?

Then please contact: **David Lewis** on + 612 9080 4054 or dlewis@iir.com.au or

Megan Rogulski on +612 9080 4030 or mrogulski@iir.com.au.

FOR SPEAKER INTERVIEWS: VISIT: www.youtube.com/iiraustralia

Day One: Monday 28 June 2010

8.30 Registration and coffee

8.50 Welcome from the chair

MINE DEVELOPMENT AND PRODUCTION

9.00 **Assessing ground conditions, deformation and support at Argyle block cave project**

Fernando Fernandez, Argyle Underground Project, Rio Tinto

9.40 **Developments in ground support and strata control**

- Examining the latest technologies for strata control:
 - Background
 - Current ground support technologies
 - Natural e.g. room and pillar, rib pillars, barrier pillars, crown pillars
 - Artificial:
 - a. Rock reinforcement e.g. bolts – rebar bolts and their derivatives – cable bolts; grouted rock bolts; mechanical anchors; resin – anchors; split-sets; swellex
 - b. Surface support e.g. strapping; steel beams; arches; concrete sprays – shotcrete, stratacrete, aquacrete
 - c. Mechanised hydraulic chocks
- Temporary and rapidly responsive ground support
- Measuring and modeling ground behaviour and roof support behaviour
- Controlling ground support costs e.g. initial costs; rehabilitation costs e.g. corrosion effected ground support; early integrity testing/detection technologies

Wouter Hartmann, *Principal Geotechnical Engineer and Director, Geohart Consultants Pty Ltd*

10.20 **Underground mine ventilation – managing the air down there**

- Estimating primary airflow requirements
- Elements of ventilation design
- Understanding legislative requirements
- Particulate monitoring and dust management
- Measuring and minimising diesel particulate matter
- Promoting performance of underground ventilation control devices (VCDs)
- Predicting responses of VCDs to blast dynamics
- Heat management – opting between cooling and airway development
- Developing a fire protection strategy

Dr Rick Brake, *Principal, Mine Ventilation Australia*

11.00 Morning refreshments and networking break

11.30 **Building “rock factories” – exploring developments in block caving**

- Planning and designing block caving
- Advances in caving technology
- Rock deformation mechanisms, preconditioning and other geomechanical considerations
- Materials handling issues faced in the high production environment
- Safety issues faced in developing and managing block caving operations
- Managing sublevel caving and avoiding unwanted subsidence

Gideon P Chitombo, *Professor and Chair in Minerals Industry Engagement, WH Bryan Mining and Geology Research Centre, University of Queensland*

12.10 **The new “zero operator” blasting paradigm – examining Cannington’s world first pilot program utilising radio communication detonation technology**

BHP Billiton partnered with Orica to develop a detonation system which fires through a leaky feeder radio communication system, allowing full underground mine clearance prior to mass blasting. This session will explore this innovation and it’s implications for safety and productivity in underground mine sites.

Alberto Diaz, *Mine Planning Engineer, Cannington Mine, BHP Billiton*

12.50 Luncheon

ESTABLISHING UNDERGROUND PROJECTS

1.50 **Strategic approaches to underground mine planning**

- Deriving practicality from feasibility studies
- Examining mine development strategies
- Managing the transition from feasibility to execution plan
- Ensuring compliance to plan: long term to short term

Ken Larwood, *Senior Consulting Engineer, Mining Plus Pty Ltd*

2.30 **Optimising the design of underground mines**

- Moving from mine concept to design implementation
- Designing stopes, stope access, haulage methods and developing schedules for maximum value
- Dealing with challenges such as gradient and turning circle restrictions in decline design
- Using software packages utilising mathematical network theory in efficient mine design
- Ventilation, geotechnical constraints and risk management

Professor J Hyam Rubenstein, *Mechanical Engineering, University of Melbourne*

3.10 Afternoon refreshments and networking break

UnderMINE 2010

HAULAGE AND ORE PROCESSING TECHNOLOGY

3.40 Underground ore processing – the shift towards preconcentration

- Crushing and conveying as a haulage alternative
- Reduction to Mine Call Factors gained by pre-concentrating ore underground
- Why crush underground? Advantages and disadvantages
- Examining preconcentration technologies, such as Gekko Systems' Python underground processing plant
- Haulage developments in line with moves towards preconcentration
- Leaching in place as a final advance in underground mining

4.20 The future of hoists and belt conveyors in underground mass mining operations

Designers of future underground mass mining operations are faced with a choice between hoisting and belt conveying systems or a combination of these systems as multiple flights and multiple streams. Hoisting systems are limited in the lift of each flight by the strength and weight properties of the ropes and are limited in the production of each stream by practical limits on the maximum hoisting speed. Belt conveying systems are similarly limited in the lift of each flight by the strength and weight properties of the belt and are limited in the production of each stream by practical limits on the belt speed. This presentation explores the limits of application of hoisting and belt conveying systems for future underground mass mining operations

John Spreadborough, *National Technical Executive Materials Handling*, Parsons Brinckerhoff

5.00 End of day one

6.30 UnderMINE Summit dinner

Day Two: Tuesday 29 June 2010

8.30 Registration and coffee

8.50 Opening remarks from the Chair

INNOVATION IN UNDERGROUND MINING

9.00 Overcoming barriers to innovation in underground mining

- Balancing the risks of innovation against benefits
- Creating innovation partnerships in industry – breaking through the “first to be second” mentality in technology adoption
- Examining the range of major technological advances to mining and future directions
- Cultural barriers to innovation – selling the case for technology upgrades to senior management

Jock Cunningham, *Theme Leader, Transforming the Future Mine*, Minerals Down Under National Research Flagship, CSIRO

9.40 Bridging the automation skills gap: Exploring why the Australian resource sector should support an automation skills development program

Derek Hunter, *Chief Executive Officer*, Mining Industry Skills Centre

10.20 Quickfire Showcase: Exploring advances in underground mining technology

Leaders in mining technology development will present a series of 10 minute demonstrations of their latest innovations.

11.00 Morning refreshments and networking break

11.30 Life of mine scheduling and cut-off grade optimisation for underground mines

Gerald Whittle, *Managing Director*, Whittle Consulting Pty Ltd

SAFETY AND COMPLIANCE

12.10 PANEL DISCUSSION: Mine inspections in the underground arena – what do regulators expect?

- Examining key compliance requirements and where underground mine sites typically fall down
- Developing a holistic compliance plan
- Understanding modern mine inspection techniques – surveying and data collection
- Ensuring accessibility and promoting due diligence
- Life post-prohibition notice – dealing with the aftermath of non-compliance

Simon Ridge, *Director Mines Safety, State Mining Engineer*, Department Of Mines and Petroleum, WA

Johan Booyse, *Snr. Advisor, Hazards – Extractives*, Department of Labour, New Zealand

1.00 Luncheon

2.00 Challenges faced in contractor alliance management

- Examining contractor/mine owner dynamics
- Creating long range sustainable alliances
- Establishing clear guidelines and key performance indicators in your contract agreement
- Taking a holistic approach to staff training and upskilling
- Performance management in a heterogenous workforce
- Overcoming a lack of commitment
- Promoting a synchronised mine – building a “one team” mentality

Rick Carter, *Site Business Manager*, Newmont Waihi Gold, Newmont Asia Pacific

2.40 The couch and the longwall: The marriage between psychology and safety in the mining industry

As safety professionals and leaders within industry understand, the safety performance of any business is the result of a complex interaction between organizational and individual factors. With the almost inevitable plateau that many organisations are now experiencing, further

Preparing for the new resources boom Down Under

improvements necessitate 'doing something different', rather than simply more of the same. To do this, we need to apply good psychology and neuroscience to leadership within the safety domain. Using an applied approach based in real industry examples, this session will:

- Use a simple functional model of the brain to understand core drivers of human behaviour as they apply to leading effective safety behaviours
- Explore the relatively predictable 'stages of change' as the framework to understand resistance to change and how to ensure true change that will be sustained over the long term
- Offer practical and simple strategies to implement these new understandings

Dr Ali Dale, *Principal Psychologist, Sentis*

3.20 Site tour and post-summit drinks: Examining Northbridge Central Institute of Technology's CUT simulator

The CUT is a simulated mine, designed to give students of Central's Certificate III in Mining a realistic feel for the underground work environment. Developed in collaboration with a set design company, it has walls mimicking rock faces containing copper, gold and nickel. The 'mine' also includes a refuge chamber donated by MineARC. This session will look at the impact of this training environment on educational outcomes for green recruits to underground mining, followed by post-summit refreshments.

Charles Dornan, *Lecturer, Mining and Geoscience, Central Institute of Technology*

5.00 End of UnderMINE Summit



Post-Summit Workshop: Wednesday 30 June 2010

8.30 Registration and coffee

9.00 Workshop Outline

Why the sky won't fall: SIA and Community Engagement in Underground Mining

This session considers the importance of undertaking effective social impact assessment and community engagement programs in underground mine projects. Through review of practical case studies, participants will gain a better understanding of how to develop and implement SIA and community engagement programs. Issues to be addressed will include:

- Understanding the key social impacts of underground mining
- Assessing and managing these impacts
- Developing integrated mine planning processes considering social issues
- Engaging stakeholders in project assessment
- Presenting information to stakeholders in an effective manner
- Working constructively with local communities
- Understanding the elements of sustainable local partnerships

Workshop Facilitator:

Dr Sheridan Coakes and Dee Bourbon, *Social Impact and Community Consultants, Coakes Consulting*

12.30 Luncheon

1.30 Close of Workshop



IIR's **Operational Excellence Series** of events, provides key networking forums for Australia's mine site personnel to learn from leading practitioners in their dedicated fields.

The **Operational Excellence Series** will always feature the best of what Australia's minerals sector has to offer, providing a fantastic learning experience where mine site personnel can share experiences and learn from their peers in a relaxed and informal setting.

www.operationalexcellence.com.au

