



MEMS

13TH ANNUAL CONFERENCE

THE CHANGING FACE OF MINING

**ONTARIO CLUB
COMMERCE COURT SOUTH
TORONTO, ONTARIO, CANADA M5L 1A1**

April 21-23, 2004

THE CHANGING FACE OF MINING

Mining is in an unprecedented period of transition as it continues to face a broad array of interrelated technical, environmental, and social issues. Financial implications have multiplied as investors, indigenous people, communities, non-governmental organizations and other interests apply increasing scrutiny to mining operations. With the immediacy of worldwide communications, local incidents become global news overnight.

The MEMS 2004 Conference will explore elements of this change: the technology of mining and mineral extraction, the way mining companies are organizing in response to changing conditions, techniques for evaluating projects, costs and liabilities related to closure, and the challenge of managing mining's relationship with broader society as the industry learns how best to apply the ideas of sustainability. Specifically, the conference will consider what is changing and how companies and institutions can manage transitions and prosper in this dynamic environment. The conference seeks to link the technical and financial elements of accelerated business change to their economic and social implications.

MINERAL ECONOMICS AND MANAGEMENT SOCIETY

MEMS is a society for mineral, energy, and natural resource professionals who apply economics, finance and policy analysis to the issues facing the minerals and materials industries. These issues include supply and demand of mineral commodities, international trade in mineral and energy raw materials, environmental issues, natural resource, mineral and energy conservation, and related government policies. Visit us at www.minecon.com.

CURRENT PROGRAM

Program Chair -----R. Anthony Hodge
Meeting Arrangements -----Melody Francisco

GENERAL INFORMATION

Location

The Conference will be held at the Ontario Club in Toronto, Canada, which is conveniently situated in downtown Toronto. The Ontario Club occupies the entire 5th floor of Toronto's Commerce Court South. www.ontarioclub.com

Accommodations

A block of sleeping rooms has been reserved until Wednesday, March 10, 2004 at the Hotel Victoria. All accommodations are to be made by individual participants. Please indicate you are attending the Mineral Economics Management Society (MEMS) Conference. Rooms range from \$111- \$135 CA, plus applicable taxes.

HOTEL VICTORIA

56 Yonge Street, Toronto, Canada M5E 1G5
Toll-free: 800-363-8228
Fax: 416-363-7327
E-mail: reception@hotelvictoria.on.ca
www.hotelvictoria-toronto.com

Travel

Transportation is the responsibility of the participant. The Hotel and Ontario Club are approximately 25 miles from the Toronto Pearson International Airport. Taxi service and rental car agencies can be found at the Airport. Visit www.gtaa.com/ for more details on airport services.

Weather

The weather in Toronto, Ontario Canada during the month of April is rather brisk. Temperatures vary during the day – the layered approach is safest and a warm coat for spring is a must. For up-to-the-minute local weather, visit www.weatheroffice.ec.gc.ca/forecast/city_e.html?yyz

Visit www.minecon.com for:

- Real Options Short Course
- Conference Program Description
- Program Updates
- Easy Registration

CONTACT US

Technical Contact

R. Anthony Hodge, *Ph.D., P.Eng.*
President, Anthony Hodge Consultants Inc.
321, Terrasse Barret
L'Assomption, Quebec, Canada J5W 1MA
T: 450-589-6944; thodge@anthonyhodge.ca

Arrangement Chair
Melody Francisco,
Colorado School of Mines
Tel: 303-273-3321
mfrancis@mines.edu

Registration and General Information

Office of Special Programs & Continuing Education
1600 Arapahoe, CSM Annex, Golden CO 80401
T: 303-273-3321; F: 303-273-3314;
space@mines.edu

WEDNESDAY, APRIL 21, 2004

PRE-CONFERENCE WORKSHOP ----- 8:00 am – 5:00 pm

Mike Samis, Ph.D., P.Eng, *Kuiseb Minerals Consulting*
and Graham Davis, *Colorado School of Mines*

"Using Real Options to Value and Manage Mining Projects"

This one-day workshop provides a practical overview of a new set of risk and decision-modelling tools developed in the finance and insurance industries and now finding their way into other industries including mining, power generation and petrochemicals. Participants will focus on the real option valuation method to value mining projects. Three main topics will be covered: (1) characteristics that influence project value; (2) how financial market information can be best combined with a detailed project description to produce a project's value based on its unique risk profile; and (3) useful applications such as assessing trade-offs between high-cost and low-cost projects, early project closure, selective zone closure, capacity expansion, and deferring the development of a mineral lease

OPENING RECEPTION ----- 5:30 pm

(Held in the bar, finger food available)

CALL TO ORDER ----- 6:30 pm

T. Hodge: *Conference Chair*

- President's Welcome: Brett Humphreys, *MEMS President*
- Conference Overview: T. Hodge, *Conference Chair*
- Speaker: David Davidson, *Paradigm Capital*
"The Investment Community's Sense of Mining: Trends and Current Perceptions"

THURSDAY, APRIL 22, 2004

CALL TO ORDER, DAY'S OVERVIEW ----- 8:15 am

SESSION 1 ----- 8:20 – 10:00 am

Chair: Charles Maxwell, *Manager Project Evaluations, Phelps Dodge*

"The Evolution of Mining Technology & its Impact on Profitability and Sustainability"

Three presentations and a four-person panel will explore the evolution of the physical aspects of mining technology and its impact on profitability and sustainability.

- Dr. Mike Hood, *CEO - Cooperative Research Center (CRC) Mining*, Pinjarra Hills, Queensland, Australia. *"Innovation in Mine Design, Ore Control, Blasting, Fragmentation, and Loading"*
- Ron Kelly, *President, & George M. (Mike) Bernard, VP & General Manager, Terra Nova Technology*, Santee, CA. *"Innovations in Ore and Tailings Conveying"*
- Dr. Juan Camus, *Codeco*, Santiago, Chile.
"Technology for Deep Mining at Codeco's Operations"

Panel Discussion
with Audience:

- Dr. Mike Hood, *CRC Mining*
- Ron Kelly, *Terra Nova Technology*
- Rene Marion, *VP Technical Services Barrick*, Toronto
- Dr. Juan Camus, *Codeco*, Santiago, Chile

SESSION 2 ----- 10:25 – 11:55 am

Chair: Charles Maxwell, *Mgr. Project Evaluations, Phelps Dodge*

"The Evolution of Mineral Extraction Technology and Its Impact on Profitability and Sustainability"

Using a commodity-specific focus on nickel, zinc, and gold respectively, 3 presentations will explore the evolution of mineral extraction technology and its impact on profitability and sustainability.

- Dr. Wm. Gordon Bacon, *VP Technology and Engineering Inco Technical Services Ltd.*, Mississauga, Ontario, *"Nickel Extraction Technology Developments and Their Implications to Profitability and Sustainability"*
- Daniel Ashman, *Manager of Metallurgical Research, Teck Cominco*, *"Zinc Extraction Technology Developments and Their Implications to Profitability and Sustainability"*
- Dr. Chris Fleming, *VP Technology, SGS Lakefield Research Ltd.*, Ontario, *"Gold Extraction Technology Developments and Their Implications to Profitability and Sustainability"*

SESSION 3 ----- 12 noon – 12:40 pm

Chair: Rod Eggert, *Colorado School of Mines*
Student Awards and Presentation

The Student Paper Competition will be introduced and the various submissions summarized. The winning author will be recognized and will give her/his paper, followed by a short question period.

- Dr. Rod Eggert, *Colorado School of Mines*, *Overview of Student Paper Competition and Presentation of Award*
- Winning Student, *Presentation of Paper, discussion*

LUNCH ----- 12:45 – 2:15 pm

Introduction to Current President, President's Address

SESSION 4 ----- 2:15 – 4:15 pm

Chair: Lisa Morrison, *Resource Strategies, Exton, Pennsylvania*

"Mergers, De-mergers, and Consolidation in the Mining Industry: the Good, the Bad, and the Indifferent, What do we Learn?"

The recent history of mergers, de-mergers, and consolidation in the mining industry will be described and analyzed in terms of costs, benefits, advantages, and disadvantages. Drawing on experience in other industries, comments will be offered about what can be expected through the next 5 years.

- Peter Kettle, *Research Director Nonferrous Metals, CRU International*, *"Financial Performance of Merged Companies"*
- Theodore Peridis, *Schulich School of Business, York University*, *"When Does it Work, when Does it Fail, Lessons Learned"*
- Two additional speakers ----- TBA

DINNER ----- 7:00 pm

--- 6:00 p.m. Cash Bar ---

Speaker: Maxine Wiber, *VP Mine Reclamation, Base Metals, BHP Billiton*, *"Estimating and Addressing Closure Liability"*

FRIDAY, APRIL 23, 2004

SESSION 5 ----- 8:15 – 9:45 am

Chair: Mike Samis, *Kuiseb Minerals Consulting*

"New Applications of Advanced Valuation Techniques in the Mining Industry"

Mine investment analysis is conducted in a dynamic business environment in which prospective investments are exposed to many risks and uncertainties. Over the life of a project, owners can update their understanding of project risk and uncertainty and manage projects accordingly. Currently, the DCF method is the most common valuation tool in the mining industry but has been encountering criticism for its inability to adequately represent the risks and opportunities. Advances in risk management and finance theory during the 1980s and 1990s are being adapted for use in the mining industry to overcome the limitations of current valuation methods.

- Dr. Dave Evans, *CSC Project Management Services*. *"Modern Day Applications of Risk and Decision Analysis to Mining Issues and Problems"*
- Dr. David Laughton – *Adjunct Professor, School of Business, University of Alberta*, *"Valuing Mining Projects Exposed to Cost and Mineral Price Uncertainty"*
- Dr. Jacob Sagi – *Assistant Professor, Haas School of Business, University of California – Berkeley*, *"Dynamic Cut-off Grade Selection Using Real Option Valuation Methods"*

SESSION 6 ----- 10:15 – 11:55 am

Chair: Graham Davis, *Colorado School of Mines*
"Mining's View of Sustainability"

This session will examine the ongoing exploration of translating the ideas of sustainability from theory to practice in the mining industry.

- Larry Smith, *Manager, Project Evaluations, INCO Ltd.*, *"The Business Case for Sustainable Development"*
- Chris Anderson, *Group Executive, External Relations and Communications, Newmont Mining Corp.*, *"Sustaining the Community"*
- Graham A. Davis, *Colorado School of Mines*, *"An Empirical Investigation of Mining and Sustainable Development"*

NETWORKING LUNCH ----- 12:00 noon - 1:30 pm

END OF CONFERENCE ----- 2:00 pm

REGISTRATION FORM

13TH ANNUAL CONFERENCE

THE CHANGING FACE OF MINING

ONTARIO CLUB • COMMERCE COURT SOUTH • TORONTO, ONTARIO, CANADA M5L 1A1

April 21-23, 2004

REGISTRATION

REGISTRATION NOTES

Conference fee:

(US\$)

- MEMS Members \$255*
- Nonmembers \$355*
- MEMS Students (includes Friday lunch) \$ 60
- Short Course fee:
"Real Option Workshop" \$150
(includes refreshments, lunch, & opening reception)

*Add \$50.00 late fee after March 26, 2004

Meals:

- President's Lunch Included in Fee
Thursday, April 22, 2004
- Banquet, Thursday, April 22, 2004 \$ 50
- Networking Lunch \$ 30
Friday, April 23, 2004 (Students Free)

To register, complete our registration form and submit it with your payment. Please use separate forms for each participant. Registration and full payment must be received by 03/26/04 to avoid the \$50 late fee. Cancellations made by 03/29/04 are subject to a \$25 fee. Cancellations after 03/29/04 will not be refunded. Your Conference fee includes a copy of the proceedings, refreshments, opening reception, and the President's luncheon on 04/22. Thursday's evening banquet and Friday's luncheon are an additional fee. The Workshop fee includes refreshments, lunch, and the Conference opening reception. Neither fees cover travel, hotel, or meals.

Please note: you are not fully registered until your registration payment is received. The quickest way to fully register is with a credit card on our secure website at www.minecon.com. Or you may use the attached registration form and send it with a check or money order.

Name _____

Title _____

Affiliation _____

Phone _____ Fax _____

E-Mail _____

Address _____

City _____ State _____ Zip _____

Country _____

PAYMENT

- VISA
- MC
- AMEX

Card # _____ Exp. _____

Total (US\$) _____

Make checks payable to:

CSM Office of Continuing Education

Mail Payment and Registration to:

MEMS Registration
 1600 Arapahoe, Golden, CO 80401
 T: (303) 273-3321 • F: (303) 273-3314
space@mines.edu



www.minecon.com