

The Basics of Geology, Mining & Processing



THE
ROBERT M. BUCHAN
DEPARTMENT OF MINING

Downtown Toronto



Queen's
UNIVERSITY



Basics of Geology, Mining, and Processing

Accredited for 12.5 hours of IDA Professional Development CE

www.mine.queensu.ca

Outline

- What will you learn
- Who should attend
- Course content
- Professors
- Next sittings
- Cost
- Private and Specialized Courses

Basics of Geology, Mining, and Processing for the Investment Community
Professional Development Seminar

Objectives

- Provide a better understanding of:
 - Technical terms and fundamentals
 - Processes
 - Meaning of information
 - Technical risks

*Focus on integration of geology,
mining, and processing*

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Professional Development Seminar

How will we do this?

- Teach technical background
- Relate our own personal experiences
- Review examples

Who should attend

- Financial analysts
- Non-technical professionals working for mining companies
- Natural-Resources government officials
- Private investors

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Course content

Geology

- ▶ Geological history of Earth
- ▶ Focus on gold, base metals, uranium, diamonds
- ▶ Deposit characteristics
- ▶ Mineralogy
- ▶ Shape, Ore controls / Limits of ore
- ▶ Size, grade and tonnage

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Course content

Resource Estimation & Reporting

- Sources of error
- Techniques and uses
- Classification Standards
- Qualified Person
- NI 43-101

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Course content

Mining Methods

- Open Pit & Underground
- Mobile equipment
- Open pit design parameters
- Underground mining methods
- Costs and Productivity

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Course content

Processing & Extraction

- Milling processes & operations
- Metal extraction & refining
- Focus on metals, gold, nickel, copper, steel

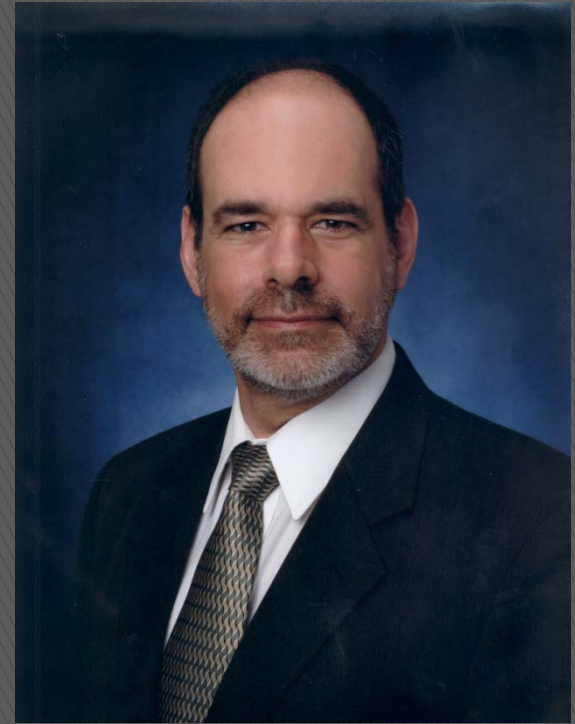
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Course content

Case Studies

- ❖ Review of examples of NI 43-101 disclosures
- ❖ Study of the evolution of technical risks with increased levels of information and technical studies
- ❖ Review of red flags in technical reports

George McIsaac eng., P.Eng., Ph.D.



- Mining Engineer
- Mineral Economist
 - Strategic Planning
 - Economic Evaluation
- Adjunct Professor @ Queen's University
- Design under conditions of metal price uncertainty
- Former Superintendent of Technical Services
@ El Indio Mine, Barrick Chile

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David A. Love

Ph.D.



- ▶ Geologist
 - Mineral deposits
 - Igneous rocks
 - Geochemical Exploration
- ▶ Adjunct Professor @ Queen's University
- ▶ Independent consultant:
 - Geochemistry in Mineral Exploration, and Ore Deposit Geology

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Boyd Davis

Ph.D.



- ▶ Chemical Process Metallurgist
 - Process Development
 - Process Analysis
 - Chemical Thermodynamics
- ▶ Adjunct Professor @ Queen's University
- ▶ President of Kingston Process Metallurgy Inc.
 - Bench-scale contract process metallurgy company
 - Focus on novel process development for clients

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Registration

Please contact
Ms. Kate Cowperthwaite
Event Coordinator
(613) 533-2230

kate.cowperthwaite@mine.queensu.ca

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Cost

- ▶ \$ 1775 per person (plus HST)
- ▶ Group discounts
- ▶ Class notes and USB key
- ▶ Breakfast, lunch and coffee included

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Private Courses

- ▶ Groups of 10 or more
- ▶ Banks & Investment Houses
- ▶ Mining Companies

- ▶ Special courses
- ▶ Focus on a specific metal or technique

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In Closing

- ▶ Course has been given since 2006
- ▶ Objectives:
 - Understand technical aspects
 - Estimate technical risk