

PRELIMINARY PROGRAM

---Tuesday October 5, 2010---

08:30

Room: Georgia A (Plaza-2nd Floor)

Stream: MANAGEMENT OF INNOVATION

Session: Management of Innovation (TUESAM1)

Paper Start Time: 08:30

Paper No.: 5504

Paper Title: **KEYNOTE: Encouraging Innovation: A Canadian Mining Association Perspective**

Gordon R. Peeling; Mining Association of Canada;

For many years, The Mining Association of Canada (MAC) has provided an effective platform for its members to pursue pre-competitive research and innovation goals and objectives--largely by encouraging collaboration among governments, business, research institutions, non-governmental organizations and civil society. This presentation will outline a broad overview of MAC's support for a variety of Canadian mining industry initiatives--research networks, collaborative multi-stakeholder processes guiding research priorities and common challenges (MEND, MITHE, NOAMI) as well as existing R&D organizations such as INAP, COREM, MIRARCO and CEMI. A recently-formed umbrella coordinating body, the Canada Mining Innovation Council (CMIC) will also be addressed. The research and development, productivity and innovation record of the mining industry is stronger than its critics might think. And an innovative mining industry is a sustainable one.

Paper Start Time: 09:20

Paper No.: 5533

Paper Title: **Alignment of Research, Development and Innovation at the CANMET Mining and Mineral Sciences Laboratories to Advance NRCan-Led Green Mining Initiative**

Magdi M. Habib; CANMET-MMSL;

The Green Mining Initiative (GMI) is an NRCan-led collaborative effort to accelerate research, development, and deployment of green mining technologies. Environmental concerns impair the ability of companies to gain a social license to operate, increase the complexity and cost of environmental assessment and regulatory processes and degrade competitiveness by driving demands that increase capital and operating costs. In May 2009, NRCan launched the GMI and refocused the activities and priorities of CANMET-Mining and Mineral Sciences Laboratories Programs to demonstrate new green technologies and processes. The four main themes for green mining technologies are: footprint reduction, innovation in tailings and waste management, ecosystem risk management and mine closure and rehabilitation. NRCan is strengthening collaboration and partnerships with stakeholders. In this regard, the Canada Mining Innovation Council (CMIC) has endorsed GMI as the tool to deliver its environment related mandate. This is part of the Pan-Canadian Mining Research and Innovation Strategy, unanimously endorsed by the Federal / Provincial / Territorial Energy and Mines Ministers at their 2008 annual conference. GMI has also been endorsed by mines ministers at the 2009 Mines Ministers Conference. NRCan is also carrying out an outreach strategy for GMI contacting key stakeholders and other government departments. The presentation will highlight the technical achievements of the GMI and how collaborative efforts with stakeholders at all level are essential to advance this initiative and fulfil the Department and government S&T priorities.

Paper Start Time: 09:45

Paper No.: 5269

Paper Title: **Collaborative/Syndicated Research: A Cost Effective Option for the Minerals Industry**

Doug Magoon; AMIRA International; Terry Braden, AMIRA International;

World demand for minerals continues to grow and so do the challenges of mineral sourcing, extracting and processing. Meeting these challenges requires the development and effective application of a broad spectrum of technologies. Collaborative / syndicated research is a powerful and cost effective option for the development and implementation of many classes of technologies. Innovation is best fostered when committed industry participants are matched with the right researchers. This paper explores AMIRA's activities in collaborative research and its ability to link well resourced world-class multi-institutional research teams with industry participants for the advancement of technology in the minerals industry.

10:30

Room: Georgia A (Plaza-2nd Floor)

Stream: MANAGEMENT OF INNOVATION

Session: Management of Innovation (TUESAM2)

Paper Start Time: 10:30

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Paper No.: 5565

Paper Title: **The Need for Innovation in the Mining Industry**

John F H Thompson; Teck Resources;

The mining industry faces many challenges including efficient discovery and evaluation of quality ore bodies, development and operation with competitive costs, and appropriate management of environmental, social, community and political risks. Innovation is a prerequisite for long term success, both for individual companies and the industry. Teck has a culture and history of successful innovation from financial management to deal making, and from discovery to development and operation. Technological efforts are focused on growth, improvement and sustainability, each of which requires variable and flexible approaches, and different measures of success. Medium to long term growth is supported by exploration, ore characterization and new process technologies. The latter aim to reduce costs or create value by unlocking metallurgically-challenged ore bodies; e.g., Teck's CESL hydrometallurgical technology. Innovation directed at improvement includes immediate value creation through operational excellence programs as well as longer term evaluation and investment in new technologies. Site testing using novel portable technologies, training, and plant audits are some of the tools that drive effective implementation. In contrast to growth and improvement, sustainability programs mitigate risk, solve potential problems, and enhance the value of products, thereby both preserving and creating value. Teck has provided strong support to innovation through technology groups that are aligned to the needs of business units. In addition to in-house programs, extensive use is made of contract and university research, which may be levered through collaborative programs where risk and cost levels are high. Regardless of the source of ideas and technologies, innovation relies on timely evaluation and clear decision making.

Paper Start Time: 10:55

Paper No.: 5534

Paper Title: **The Timing of Adoption and Licensing: Two Key Components of a Technology Strategy**

Mihkel Tombak; University of Toronto;

Two of the key decisions in the management of technology is "getting the timing right" and whether to license your technology. On the timing issue we will examine factors which make technological leadership desirable (or undesirable). On licensing, the incentives of out-licensors and in-licensors are discussed. Also, some of the fundamental problems in the market for technology licenses will be addressed.

Paper Start Time: 11:20

Paper No.: 5291

Paper Title: **The Opportunity for Fuel Cell Powered Mining Equipment**

Brant A. Peppley; Queen's-RMC Fuel Cell Research Centre, Queen's University;

The exhaust from combustion engines used for powering generators and vehicles requires the monitoring and cleanup of harmful emissions and can necessitate the flow of large volumes of air for ventilation. This can be an energy intensive operation. There have been various demonstrations of the use fuel cells on mining equipment and vehicles using either hydrogen or reformed conventional fuels but until recently the cost per kilowatt of fuel cell power has been prohibitive. In the past several years, however, fuel cells have made significant progress in materials handling equipment, emergency power back up and transit bus applications. This presentation will examine the various types and designs of fuel cell systems currently being developed and will describe a number of scenarios where fuel cells could provide significant benefits in advancing clean and sustainable mining operations.

14:00

Room: Georgia A (Plaza-2nd Floor)

Stream: MANAGEMENT OF INNOVATION

Session: Management of Innovation (TUESPM1)

Paper Start Time: 14:00

Paper No.: 5578

Paper Title: **Technology Transfer & Value Creation**

Julian Edwards; Vale Inco Technical Services Ltd;

The business model for managing innovation at the Vale Inco Technical Services centre in Mississauga, Ontario has stood the test of time, with a proven track record of successful technology transfer and project implementation. Illustrated with recent examples, the presentation will discuss the management processes and tools used to seek out and analyze opportunities for innovative technology solutions in the Vale Inco business units. The methodical approach to move from proof of concept, through value analysis, technical development and on to project implementation will be described.

Paper Start Time: 14:25

Paper No.: 5508

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Paper Title: **Managing the fabrication and delivery of the World's largest Autoclaves in a new business environment**

Andrew R Marchbank; SNC-Lavalin Inc.;

The Ambatovy Nickel Project in Madagascar purchased the largest autoclaves built to date from two locations. Three of the five units were purchased from Shanghai Morimatsu. The company had not built anything of this scale at the time. The paper describes the efforts that were undertaken to develop the Chinese entity's skills, to manage the procurement effort and the fabrication period and ensure proper quality control. The units were delivered on time, on budget and at an advantageous price to the end client.

Paper Start Time: 14:50

Paper No.: 5516

Paper Title: **Technology & Innovation: A Value Adding Proposition for the Gold Industry**

Peter Kondos; Barrick Gold Corporation;

Gold has been an integral part of cultures and civilizations since the early days of mankind. Gold mining and extraction processes have changed dramatically since those early days, as gold miners today pursue low gold content orebodies in remote regions of the world, enduring adverse climates and unique cultures. The limits of known technologies are tested and their complexity is reflected in the sophisticated operations we are building today. The 21st century has brought upon us difficult orebodies to mine and process, escalating costs, shortage of energy availability and power distribution infrastructure, environmental restrictions and lengthy permitting procedures, social responsibility and sustainability, and the climate change challenge. These challenges have been further accentuated with restraints in capital availability, necessary to build the new capital intensive mines. Gold mining today requires seasoned miners, in close cooperation with innovation and advanced technology to push the limits in excellence of our operations and test new frontiers in our industry. Our experience at Barrick Gold will be presented in the use of Technology & Innovation as a vehicle to address challenges and unlock significant value in orebodies we are entrusted.

15:35

Room: Georgia A (Plaza-2nd Floor)

Stream: MANAGEMENT OF INNOVATION

Session: Management of Innovation (TUESPM2)

Paper Start Time: 15:35

Paper No.: 5105

Paper Title: **The Hatch Innovation Model**

Emily Moore; Hatch Ltd.; Terry Gerritsen, Hatch Ltd.;

Hatch has a long tradition of working with our clients to deliver technological innovations in the metals industry. This tradition is based on several key principals: intimate relationships with our clients, a focus on deep process understanding in our business units, and the creation of multidisciplinary teams with access to the best technical resources. This talk will describe the model that Hatch has employed to innovate with our clients and the role that a consulting engineering company can play in Open Innovation.

Paper Start Time: 16:00

Paper No.: 5387

Paper Title: **The XPS Difference-Customer Driven Innovation**

Edgar Peek; Xstrata Process Support; Frank McGlynn, Xstrata Process Support;

When Xstrata Plc. purchased Falconbridge Ltd. in 2006, it immediately recognized the high value the existing technology group provided to the nickel, copper and lead / zinc operations. Indeed the Falconbridge Technology group had a formidable track record of accomplishment in new process development and operations support, all achieved with significant corporate support and direction. Xstrata decided to preserve this value while at the same time unlocking the commercial potential of the group. The story of XPS then, albeit a young one so far, is of the transformation of a technology group from the more traditional corporate entity to a viable independent business unit that is still an asset of the larger mining corporation. The innovations needed not only in our technology services but also in our management approach are predicated on the fact that our customer is now truly the operation or business that engages us. We were fortunate to have the boom years, short as these were, and met our business objectives even in the dire environment of 2009. We now look forward to employing our recession honed skills for the benefit of all of our clients.

Paper Start Time: 16:25

Paper No.: 5690

Paper Title: **Innovation and Technology Development**

Engin Ozberk; Cameco Corporation;

Cameco is one of the largest uranium producing companies in the world and is recognized leader in many aspects of the international uranium industry including exploration, mining, extraction and refining of uranium, uranium fuel manufacturing. In the light of a historical

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background, the status of current uranium mining and processing activities at Cameco operations are reviewed emphasizing advantages Cameco enjoys and challenges faced. The management of innovation and technology development in key aspects of Cameco's mining and processing activities is highlighted and an approach for ensuring sustainability of the operations through innovation is discussed.

---Wednesday October 6, 2010---

08:30

Room: Georgia A (Plaza-2nd Floor)

Stream: MANAGEMENT OF INNOVATION

Session: Management of Innovation (WEDAM1)

Paper Start Time: 08:30

Paper No.: 5691

Paper Title: **KEYNOTE: Canada Mining Innovation Council**

Engin Ozberk; Cameco Corporation;

Canada is one of the leading metals and minerals producing countries in the world and Canadian companies are recognized leaders in many aspects of the international mining industry including exploration, mining, extraction, refining, alloying and shaping of metals and minerals, and related manufacturing, and design, construction and operation of mines and plants. In the light of a historical background, the status of current mining and processing activities in Canada are reviewed emphasizing advantages Canadian companies enjoy and challenges they face. The role of Canada Mining Innovation Council since its formation in key aspects of mining and processing activities is highlighted and how an approach for ensuring sustainability of the mining industry through facilitation and encouraging collaboration for targeted research and development is proposed.

Paper Start Time: 09:20

Paper No.: 5407

Paper Title: **Innovation Management at Rio Tinto Alcan**

Francois Tremblay; Rio Tinto Alcan;

New ideas are the foundation to continuously renew our Research and Development portfolio as is the case in other organizations. This is why Rio Tinto Alcan promotes the generation of new quality ideas through a structured innovation program in order to create superior value for our business. Innovation is led in each of our research centres by champions and dedicated teams who are connected by a network of community practices to share good innovation methods between sites.. A significant budget is dedicated to innovation and a structured lean mechanism efficiently manages new ideas from their initialization to their conceptualization including Intellectual Property.

Paper Start Time: 09:45

Paper No.: 5506

Paper Title: **Management of Innovation; a Novelis Perspective**

John Hunter, Novelis Inc; Mike Thomas, Novelis Inc; Graeme Marshall, Novelis Inc;

As the world's biggest manufacturer of semi-fabricated aluminum sheet, Novelis is faced with multiple challenges and opportunities during a period of rapid economic and environmental change. In common with most of the metals supply industry, Novelis is experiencing a growing need to innovate to help consolidate its existing markets and to expand its product base in order to develop new market space. This paper will outline the major forces-for-change which are driving innovation within Novelis and the approaches the company is taking to the processes of ideation, project selection & management and technology transfer and implementation.