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Mineralogical Association of Canada

35th MAC SHORT COURSE, IN OULU, FINLAND (AUGUST 6-7, 2005)

A very successful 35th MAC-affiliated short course, entitled "Exploration for Platinum-Group Element Deposits," was held at the Ramada Hotel in Oulu, Finland on August 6 and 7, 2005. The course, held in conjunction with the 10th International Platinum Symposium, provided attendees with a solid grasp of the processes that concentrate and redistribute the platinum-group elements (PGE) in the Earth's crust in magmatic, hydrothermal, and surficial settings. Case studies and descriptive ore deposit models complemented the theory, and built a framework for successful exploration strategies in both traditional magmatic and atypical PGE deposit settings.

The course was very well attended by both academia and industry. Day one began with detailed introductory theory on the magmatic and aqueous geochemical behavior of the PGE by James Mungall (short course editor) and Jacob Hanley from the University of Toronto, Canada. Grant Cawthorn (University of the Witwatersrand, RSA), Markku Iljina (Geological Survey of Finland), and Chris Lee (consulting geologist, Amplats) presented the first descriptive ore deposit models, describing the charac-

teristics of stratiform and marginal PGE deposits and focusing on the Bushveld Complex and layered intrusions in northern Finland. The behavior of PGE minerals in a supergene environment associated with the Great Dyke of Zimbabwe was presented by Thomas Oberthür (German Geological Survey). Descriptions of PGE placer deposits associated with Ural-Alaskan-type complexes (Nadezhda Tolstiykh, UIGGM, Novosibirsk, Russia) and hydrothermal PGE deposits in atypical (not associated with mafic and ultramafic rocks) settings (James Mungall, and Andy Wilde, Monash University, Australia) continued into the late afternoon. Much discussion continued over wine and traditional Finnish food at dinner.

Day two began with a presentation on the revised classification of PGE ores associated with the Sudbury Igneous Complex (Catharine Farrow, FNX Mining Company). James Mungall and Nick Arndt (Université de Grenoble, France) then discussed the dynamic processes at work in magmatic conduits associated with PGE deposits. Finally, Maria Economou-Eliopoulos (University of Athens, Greece) described the concentration of PGE in porphyry systems. After an introduction to the economic considerations and geological criteria for PGE exploration (Tony Green, Falconbridge Ltd.), the afternoon was occupied by presentations describing the geophysical, biogeochemical, and lithogeochemical signatures of PGE ore deposits (Stephen Balch, Aeroquest Ltd; Keiko Hattori, University of Ottawa, Canada; Wolfgang Maier and Sarah-Jane Barnes, Université du Québec à Chicoutimi, Canada). Case histories were presented at a poster session at the end of day; these provided examples of PGE ore discoveries made through the integration of geological, geochemical and geophysical observations, and exploratory techniques. Posters highlighting the global distribution of PGE deposits were also presented.

Special thanks go to James Mungall and Markku Iljina for organizing the course, to all presenters for their efforts, and to Rob Raeside (MAC short course series editor) and his team for their handling of the short course volume during the publishing and printing stages.

The short course volume is available for purchase from MAC (<http://www.mineralogicalassociation.ca/index.php?p=25#SC35>).

Jacob Hanley, University of Toronto

Mineralogical Association of Canada

STUDENT TRAVEL/RESEARCH GRANTS 2006

The Mineralogical Association of Canada will award travel and research grants to assist honours undergraduate and graduate students in the mineral sciences to:

- Present their research at a conference
- Attend a short course or a field trip relevant to their field of study
- Visit a facility, laboratory or field area to gather data for their research
- Pay for analyses or equipment for their research

The maximum grant value is CDN\$1200 per student. Grants will fund up to 50% of costs incurred for registration, travel and subsistence, and up to 100% of other research costs (e.g., equipment, analyses). Quotations and receipts may be requested for any equipment purchased.

Eligibility

- Graduate students and honours students at the undergraduate levels in one of the fields covered in *The Canadian Mineralogist* (mineralogy, crystallography, petrology, economic geology and geochemistry)
- Grant recipients must submit a report of their travel or research for possible publication by MAC.

For more information, see www.mineralogicalassociation.ca

Deadline to apply: January 15, 2006

CALL FOR NOMINATIONS FOR THE 2006 MINERALOGICAL ASSOCIATION OF CANADA AWARDS

Young Scientist Award

This award is given to a young scientist who has made a significant international research contribution in a promising start to a scientific career.

- The scientist must be 40 or younger at the time of the award.
- The scientist must be a Canadian working anywhere in the world or may be of any nationality if working in Canada.
- The research areas include mineralogy, crystallography, petrology, geochemistry, mineral deposits, and related fields of study.

Past-Presidents' Medal

The Past-Presidents' Medal is awarded to a scientist who has made outstanding contributions to the mineralogical sciences in Canada. There is no restriction regarding nationality or residency. The medal is intended to recognize the breadth and universality of these contributions in mineralogy, applied mineralogy, petrology, crystallography, geochemistry, or the study of mineral deposits, rather than in a narrow area of expertise.

Berry Medal

The Leonard G. Berry Medal is awarded annually for distinguished service to the Association. The award recognizes significant service in one or more areas that may include leadership or long-term service in an elected or appointed office. The medal is named after Leonard G. Berry (1914-1982), a founding member of MAC, editor of *The Canadian Mineralogist* and its predecessor for 25 years, and first winner of the MAC Past-Presidents' medal.

DEADLINE: December 31

Check our website www.mineralogicalassociation.ca for additional details.

MONTREAL 2006

Tired of mega-meetings and of that lost-in-a-crowd feeling? Fed-up with 15-minute talks? Looking for a more human-size meeting that still offers you a broad range of sessions to choose from across the Earth sciences?

Montreal 2006, the joint annual meeting of the Geological Association of Canada and the Mineralogical Association of Canada, might be the meeting for you. Andrew Hynes, chair of the technical program committee, has assembled a strong technical program, with many sessions covering the fields of geochemistry, petrology, and mineralogy.

Montreal is one of the most dynamic cities in North America, with cosmopolitan flair and European flavor. You might want to plan a holiday as it is a great place for families.

Some of the technical sessions that might be of interest are listed below (for the full program, visit the conference website at www.gacmac2006.ca). Abstract submission deadline is January 15, 2006.



1. Symposium Clément Gariépy – Lead isotopes as tracers of geological and environmental processes

Ross Stevenson (GEOTOP-UQAM), Nuno Machado (GEOTOP-UQAM)
stevenson.ross@uqam.ca

2. Alkaline igneous systems: Dissecting magmatic to hydrothermal mineralizing processes

David Lentz (U. of New Brunswick), André Lalonde (U. of Ottawa), Stefano Salvi (LMTG, Toulouse), Jeanne Paquette (McGill U.)
dlentz@unb.ca

3. Earth's mantle: New insights from diamonds and xenoliths

Maya Kopylova (U. of British Columbia), Don Francis (McGill U.)
mkopylov@nexus.eos.ubc.ca

4. Kimberlites and other diamondiferous rocks

Don Francis (McGill U.), Felix Kaminsky (KM Diamond Exploration)
donf@eps.mcgill.ca

5. TTG, adakites, and high-Mg andesites: Modern and ancient analogues

Ross Stevenson (GEOTOP-UQAM), Ali Polat (Windsor U.)
stevenson.ross@uqam.ca

6. Physical volcanology, textures, and geochemistry of komatiite and basalt flow fields

Wulf Mueller (UQAC), Tony Fowler (U. of Ottawa), Jarda Dostal (St. Mary's U.)
wmueller@uqac.ca

7. Isotope geochemistry and ore mineralization

Kurt Kyser (Queen's U.), Norbert Clauer (U. of Strasbourg)
kyser@geol.queensu.ca

8. Recent developments and applications of ICP-MS with emphasis on methods of sample introduction

Paul Bédard (UQAC), Richard Cox (UQAC), Nuno Machado (GEOTOP-UQAM), William G. Minarik (McGill U.)
pbedard@uqac.ca

9. Advances in micro- and nano-scale characterization and analysis of Earth materials

Alan Anderson (St. Francis Xavier U.), Penny King (U. of Western Ontario)
aanderso@stfx.ca

10. The storage and transport of trace elements in the Earth system: From the core to the environment

Don Baker (McGill U.), Sarah-Jane Barnes (UQAC), Alfonso Mucci (McGill U.)

MELT INCLUSIONS IN PLUTONIC ROCKS

Mineralogical Association of Canada Short Course

15–17 May 2006

prior to the GAC–MAC Joint Annual Meeting, Montreal, QC, Canada

CONVENER: James D. Webster

Overview

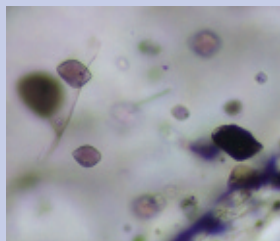
Much of the research on melt inclusions has focused on volcanic systems. Yet, pluton-forming magmas are equally if not more important for mountain building and continental crust formation, and they are genetically related to a wide variety of metallic mineral deposits.

Investigation of the geochemistry and petrology of plutons in convergent margins can provide information crucial to our understanding of the generation, evolution, ascent, and emplacement of subduction-related magmas. The analysis of melt and fluid inclusions in these plutonic rocks is an indispensable research tool for understanding the recycling of crustal components into and through the mantle.

Studies on inclusions from plutonic systems are increasingly common. The studied systems are diverse and include mafic, ultramafic, and granitic rocks, and evolved felsic pegmatites. The inclusions trapped in these magmas range in composition from aqueous to sulfide-, carbonate-, silicate-, or halogen-enriched.

Current growing interest in the geochemistry of plutonic systems occurs at a time when advances in micro-analytical methods facilitate the analysis of fully crystallized melt inclusions (without prior reheating); the study of stable isotopes of D/H, Li, C, S, and Cl in melt inclusions; and the determination of the partitioning of ore metals and volatiles among melts, minerals, and fluid phases in coexisting and coeval inclusions.

A two-day symposium at Montreal 2006 entitled "Alkaline Igneous Systems: Dissecting Magmatic to Hydrothermal Mineralizing Processes" will complement the short course.



Topics

Melt inclusions in plutonic systems: Recognition, methods of study, data interpretation, and applications (R.J. Bodnar, Virginia Tech)

Fluid and melt inclusions in subvolcanic environment from volcanic systems: Examples from the Neapolitan area and Pontine Islands, Italy (B. De Vivo and A. Lima, Università di Napoli, and L.V. Danyushevsky and V.S. Kamenetsky, University of Tasmania)

Magmatic processes and volatile generation in porphyry-type environments: A laser-ablation ICPMS study of silicate and sulfide melt inclusions (W. Halter, ETH Zurich)

Melt inclusion record of magmatic immiscibility in mantle and crustal magmas (V.S. Kamenetsky and M.B. Kamenetsky, University of Tasmania)

Application of secondary ion mass spectrometry to the determination of traditional and non-traditional light stable isotopes in melt inclusions (G. Layne, Woods Hole Oceanographic Institution)

Carbonate melt inclusion systematics: A review of their origin, reaction relationships, isotopic constraints, and petrogenetic significance (D. R. Lentz, University of New Brunswick)

In situ chemical analysis (LA-ICPMS, EPMA, SIMS, and RAMAN) of melt inclusions and prospects for constraining subduction zone magmatism (T. Pettko, University of Bern)

Pegmatite-forming processes: What do melt and fluid inclusions tell us? (R. Thomas, GFZ Potsdam, and J.D. Webster, American Museum of Natural History)

Crystallized melt inclusions in gabbroic rocks (I. Veksler, GFZ Potsdam)

The melt inclusion record of volatiles in felsic plutons (J.D. Webster, AMNH, and R. Thomas (GFZ Potsdam)

Registration fees: CDNS400 (professional) and CDNS200 (students)
 For more information, e-mail Jim Webster at jdw@amnh.org or visit the conference website www.gacmac2006.ca