

Mineralogical Association of Canada

www.mineralogicalassociation.ca

THE PETROLOGY OF ANORTHOSITES, RELATED GRANITIC ROCKS, AND UHT ASSEMBLAGES: A TRIBUTE TO RONALD F. EMSLIE (1932–2005)



Ron Emslie above Michikamau Lake (Smallwood Reservoir), 1977

This latest thematic issue of The Canadian Mineralogist is a tribute to the remarkable career of a humble Canadian giant in the field of petrology. Indeed, Ronald Frank Emslie, one of Canada's outstanding geoscientists, made immense contributions to the fields of igneous petrology, geochemistry, and mineralogy. Ron dedicated most summers of his more than 35 years with the Geological Survey of Canada carrying out a prodigious amount of difficult field work in remote areas, a task matched only by a sustained level of excellence. His body of work on magmatism in the Grenville, Churchill, and Nain provinces of the eastern Canadian Shield has been a vital

contribution to our understanding of Proterozoic anorthositic masses, layered intrusions, and related A-type granites.

The issue grew out of a special session held during the Geological Association of Canada-Mineralogical Association of Canada-Society of Economic Geologists-Society for Geology Applied to Mineral Deposits (GAC-MAC-SEG-SGA) meeting in Quebec City in May 2008. The contributions in this issue range in scope from large-scale overviews of how, when, and where Proterozoic anorthosite-mangerite-charnockite-granite (AMCG) suites form to papers dealing with mineralscale reactions in rocks related to AMCG suites and ultrahigh-temperature (UHT) assemblages. The fifteen papers are grouped broadly by theme, starting with an overview of anorthosites, which is followed by papers that focus on the Adirondack AMCG suites, with implications for their tectonic setting and petrogenesis; a set of papers dealing with geochemical and petrologic aspects of the AMCG suites in the Grenville and Nain provinces of eastern Canada; a group of papers dedicated to providing the field, petrological, geochemical, and geochronological framework of the anorthositic intrusions of the Laramie anorthosite complex in southeastern Wyoming, USA; and papers related to AMCG suites and A-type granites in Baltica (Norway, Finland) and eastern Russia. The final set of papers focuses on the mineralogy and significance of strongly metamorphosed metasedimentary rocks and UHT migmatites.

There is no igneous rock more difficult to explain than anorthosite. Its petrogenesis challenged Norman L. Bowen a century ago, and it challenged another top-notch Canadian petrologist, Ronald Emslie, throughout his long and productive career. The volume contains contributions to the petrogenesis of AMCG suites from a veritable who's who in this challenging field.



CANADIAN MINERALOGIST, Volume 48, Part 4, 336 pages

Check the table of contents at www.canmin. org or www.canmin.geoscienceworld.org.

CALL FOR NOMINATIONS 2011 MINERALOGICAL ASSOCIATION OF CANADA AWARDS

PEACOCK MEDAL

The Peacock Medal (formerly known as 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 recognizes 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.

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. He or she must be a Canadian working anywhere in the world or a scientist of any nationality working in Canada. The research areas include mineralogy, crystallography, petrology, geochemistry, mineral deposits, and related fields of study.

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, including leadership and 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 for 25 years of *The Canadian Mineralogist* and its predecessor, and first winner of MAC's Past-Presidents' Medal.

Please submit your nominations by December 31, 2010. Check our website, **www.mineralogicalassociation.ca**, for additional details.

Pinch Medal – Call for Nominations

'he Pinch Medal has been awarded every other year since 2001 to recognize major and sustained contributions to the advancement of mineralogy by members of the collector-dealer community. The medal is named for William Wallace Pinch of Rochester, New York, in recognition of his enormous and selfless contributions to mineralogy through the identification of ideal specimens for study and through his generosity in making them available to the academic community. Previous recipients include William Wallace Pinch (2001), Mark Feinglos (2003), Charles Key (2005), László (Les) Horváth and Elsa Pfenninger-Horváth (2007), and Roy Kristiansen (2009). Nominations for the 2011 Pinch Medal should be submitted to Peter Burns (Department of Civil Engineering and Geological Sciences, University of Notre-Dame, 156 Fitzpatrick Hall, Notre-Dame, Indiana 46556-0767, USA; phone: 219-631-7380; fax: 219-631-9236; e-mail: pburns@ nd.edu) by November 30, 2010. Each nomination should consist of a letter describing in detail the contributions of the nominee and a list of publications resulting from the nominee's contributions (the nominee is not required to be an author of these publications); additional supporting letters are welcome. The medal is typically awarded at the Tucson Gem and Mineral Show, following the selection of the recipient by the award committee and approval by MAC Council.

ELEMENTS OCTOBER 2010

MAC AT 11th IPC



MAC was a co-sponsor of the 11th International Platinum Conference, which was held in Sudbury from June 21 to 24, 2010. We thank Vicki Loschiavo, managing editor of *The Canadian Mineralogist*, for staffing the MAC booth. It is hoped that a thematic issue will be a spin-off of this conference. See page 345 for a report on this conference. MAC also exhibited at GeoCanada 2010 in Calgary and at the IMA conference in Budapest. We will attend the GSA meeting in Denver (booth 917).

STUDENT TRAVEL/RESEARCH GRANTS

The Mineralogical Association of Canada awards travel and research grants to assist honors undergraduate and graduate students in the mineral sciences to:

- Present their research at a conference
- Visit a facility, laboratory, or field area to gather data for their research
- Pay for analyses that cannot be acquired at their university or equipment for an independent research project

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 honors students at the undergraduate level in one of the fields covered in *The Canadian Mineralogist* (mineralogy, crystallography, petrology, economic geology, 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, 2011

MAC SPONSORSHIP

Ithank the Mineralogical Association of Canada for supporting my attendance at the GeoCanada meeting in May 2010. I was really pleased when Dr. Elena Sokolova, who was the organizer and chair of the session "Recent Advances in Structural Mineralogy," invited me to give a talk at the meeting and act as a cochair. The session was a real success. The talks were on recent scientific advances and the most innovative research in structural mineralogy. Topics included the bond topology of structural units in oxysalt minerals, the prediction of structural topology from chemical composition in Ti silicates, the crystal chemistry of platinum-group minerals, the structural topologies of uranyl nanoclusters, and more. This session provided me with new ideas and approaches that I can apply to my project on the crystal chemistry of sheet silicates, part of which I presented at GeoCanada 2010. I am looking forward to the GAC-MAC meeting in Ottawa next year!

Yulia Uvarova



PLAN TO ATTEND OTTAWA 2011 - 25-27 MAY

Association of Canada, the Mineralogical Association of Canada, the Society of Economic Geologists, and the Society for Geology Applied to Mineral Deposits. Canada's capital city offers a unique blend of culture, history, and natural beauty. It lies at the junction of the rocky edge of the Canadian Shield and the Cambrian and Ordovician deposits of an ancient sea, and is ideally situated for its two universities and the Geological Survey of Canada. As Ottawa is home to Canada's parliament, the meeting will provide an opportunity to showcase the societal relevance of the Earth sciences to federal decision makers. Committed to exploring both the scientific and the societal aspects of Earth sciences, Ottawa 2011 will feature symposia and sessions that revolve around the theme *Navigating Past and Future Change*. Join us on 25–27 May 2011 at the University of Ottawa!

Extend your stay in our beautiful city and enjoy its many land-marks and events. Ottawa is abloom with millions of tulips during the first weeks of May, and the world-famous Canadian Tulip Festival attracts hundreds of thousands of visitors. Ottawa Race Weekend takes place the weekend immediately following our meeting—make sure to register early for this popular event and run through the streets of Ottawa and along the Rideau Canal, a UNESCO World Heritage Site! These events will ensure that Ottawa hotels will be busy at the time of our meeting, so **please reserve your accommodation for Ottawa 2011 now!** Special rates have been arranged with several nearby hotels; please see our web page for details.

Here is a sampling of the sessions being organized:

- EARTH CLIMATE: PAST, PRESENT, FUTURE Andrew Miall
- Precambrian metallogeny: A Canadian Archean and Proterozoic perspective Benoît Dubé et al.
- Geoenvironmental ore deposit models Alexandre Desbarats, Michael Parsons
- New methods in detection of hidden mineral deposits Neil Rogers
- Emerging techniques and issues related to geology and health Suzanne Beauchemin, Heather Jamieson, Jeanne Percival
- Rare elements: Mobility and concentration processes Iain Samson, Anthony Williams-Jones, Robert Linnen
- Alkali Porphyry Cu-Au-PGE deposits: Revised models, exploration tools and links to other ore deposits associated with alkalic magmatism – Jacob Hanley, Graham Nixon
- ELEMENTAL AND ISOTOPIC ANALYSIS BY LA–ICPMS: ADVANCES AND APPLICATIONS

 Joel Gagnon, Simon Jackson
- Environmental geomicrobiology: Microbial influences and molecularscale interactions with minerals – Chris Weisener, Danielle Fortin
- Genesis of uranium deposits: Geological controls and prospective terrains
 Eric Potter, Kurt Kyser, Gerard Zaluski, Rebecca Hunter
- Magmatic-hydrothermal evolution in felsic magmas Daniel J. Kontak, Jaroslav Dostal, Susan Karl
- ECONOMIC POTENTIAL OF NORTHERN CANADIAN SEDIMENTARY BASINS: HYDROCARBONS AND METALS Liz Turner, Rob Rainbird
- QUANTIFYING ROCK TEXTURE (MICROSTRUCTURE) AND WHAT IT CAN BRING TO PETROLOGY – Michael Higgins, James Scoates
- Kimberlites, cratons, diamonds and lithosphere evolution B.A.Kjarsgaard, D.G. Pearson, D. Snyder

Abstract submission deadline is January 15, 2011.

Details on registration, programs, and events are available on our website: www.gacmacottawa2011.ca.