



Mineralogical Society of Great Britain and Ireland

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EMU Notes in Mineralogy 14 • Minerals at the Nanoscale

Edited by F. Nieto and K. J. T. Livi

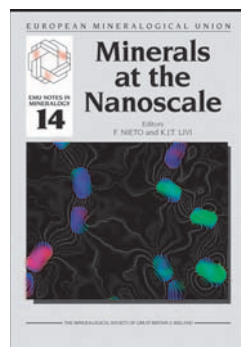
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In this book, Editors F. Nieto and K. J. T. Livi have gathered reviews of past and current studies of mineral groups that have played important roles in geology, environmental science and health science. The various chapters cover the application of TEM and related techniques to mineral groups in which TEM investigations have been crucial to the understanding of their mineralogy. These groups are the pyriboles, serpentines, clays, micas and other metamorphic phyllosilicates, oxides and oxyhydroxides, sulfides and carbonates.

Some research fields in which TEM is particularly suitable and which have produced significant advances are inclusions and traces, extraterrestrial material, deformation processes, non-stoichiometry and superstructures, and biominerals.

Nowadays, we are witnessing a push for the improvement of detectors for imaging (direct detection of electrons) and X-rays (silicon drift detectors and annular high solid-angle of collection detectors), the development of new support materials (e.g. graphene) and liquid cells for TEMs. Most of these new technologies have not yet been applied to mineralogical problems, but hopefully will be in the near future.

- Chapter 1. Inclusions and traces studied by TEM-AEM – C. Ferraris and G. Aucherlonic
- Chapter 2. Energy dispersive X-ray microanalysis by TEM applied to extraterrestrial materials – H. Leroux
- Chapter 3. Characterization of dislocations and deformation processes by transmission electron microscopy – P. Cordier
- Chapter 4. Structures and microstructures of non-classical pyriboles – K. N. Bozhilov
- Chapter 5. Structure and microstructure of serpentine minerals – M. Mellini
- Chapter 6. Clays in low-temperature environments – B. Bauluz
- Chapter 7. The role of transmission electron microscopy in the study of micas and related minerals in selected metamorphic environments – K. J. T. Livi and I. Abad
- Chapter 8. Non-stoichiometry, defects and superstructures in sulfide and oxide minerals – F. Langenhorst, D. Harries and K. Pollok
- Chapter 9. Iron, manganese and aluminium oxides and oxyhydroxides – V. Barrón and J. Torrent
- Chapter 10. Carbonates: An overview of recent TEM research – C. Rodríguez-Navarro and E. Ruiz-Agudo
- Chapter 11. Biominerals at the nanoscale: Transmission electron microscopy methods for studying the special properties of biominerals – M. Pósfai, T. Kasama and R. E. Dunin-Borkowski

MEETINGS

North Atlantic Craton Workshop: From Craton Development to Mineral Deposits

University of St Andrews, UK

19–21 March 2014

Details: www.nac-conference2014.org.uk



Topics for the workshop will include: Archaean mantle geochemistry, craton development and evolution of the subcontinental lithospheric keel, deep cratonic structure and its potential impact on the distribution of mineralisation, strategies for targeted exploration, and current and future exploration targets within the NAC. We aim to include a wide variety of commodities and deposit types, including the 'critical metals', which are of ever-increasing importance to our society.

Themes:

- Archaean craton geology, mineralogy and geochemistry
- Mantle keel and subcontinental lithospheric mantle geochemistry
- Cratonisation processes and cratonic deep structure – regional controls on mineralisation (Archaean to Palaeogene)
- NAC regional metallogenesis and mineral potential (e.g. REE-Nb-Ta-Zr, Ni-Cu-PGE, base metals, Au, diamonds, gemstones)
- Temporal and spatial variation of mineral deposit types
- NAC breakup – effects of the opening of the Atlantic Ocean and Labrador Sea
- Case studies, including examples from Canada, Greenland, Scotland and beyond
- Current and future NAC exploration

This event is being organised by the Cardiff University and St. Andrews University chapters of the Society of Economic Geologists and the Applied Mineralogy Group of the Mineralogical Society of Great Britain and Ireland, in conjunction with the British Geological Survey and the Geological Survey of Denmark and Greenland.

Euroclay 2015

University of Edinburgh, UK

5–10 July 2015

www.euroclay2015.org



Hosts: The European Clay Group Association, the Clay Minerals Group of the Mineralogical Society of Great Britain & Ireland, The Clay Minerals Society and the International Natural Zeolite Association

The scientific program of EUROCLAY 2015 will bring together, in an exciting, leading-edge programme, specialists from different disciplines related to clays and clay minerals. It will consist of technical sessions of both oral and poster presentations, with a generous quota of invited speakers who are the leaders in their respective fields. Pre-meeting workshops and mid-meeting field excursions will be integral parts of the scientific programme.

A key aim of this conference is to integrate industrial and academic workers by means of sessions which cover both areas. A visit to Edinburgh is one of life's 'must-do' items. As Scotland's capital city, it is the home of geology and is littered with places of interest for the delegate and accompanying person alike.