

FLUID-FLUID INTERACTIONS^{1,2}

The different regions of the mantle and crust give rise to a wide range of fluid compositions, which, according to temperature, pressure and composition, can show complete miscibility to complete immiscibility. Partial miscibility of fluids in the crust and the changes in miscibility as conditions change have a range of consequences, which are explored in this volume. There are 12 chapters on fluid-fluid interactions in the Earth's lithosphere: Experimental Studies in Model Fluid Systems, Equations of State for Complex Fluids, Liquid Immiscibility in Silicate Melts and Related Systems, Phase Relations Involving Hydrous Silicate Melts, Aqueous Fluids and Minerals, Numerical Simulation of Multiphase Fluid Flow in Hydrothermal Systems, Fluid Phase Separation Processes in Submarine Hydrothermal Systems, Fluids in Hydrocarbon Basins, Fluid-Fluid Interactions in Geothermal Systems, Fluid Immiscibility in Volcanic

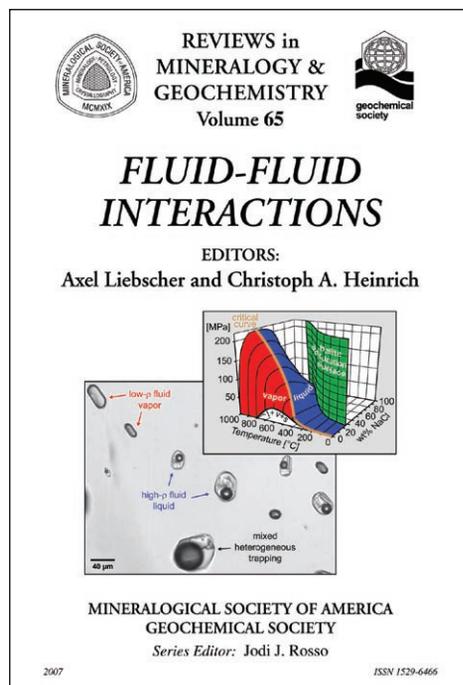
Environments, Fluid-Fluid Interactions in Magmatic-Hydrothermal Ore Formation, and Fluid Immiscibility in Metamorphic Rocks.

It is not the sort of book that one selects for casual reading. Geoscientists who are fearful of phase diagrams, equations of state or solubility curves will handle it with trepidation, but the subject matter is well explained, and these scientists (most of us?) can learn from it. For researchers seeking to interpret fluid inclusion, stable isotope or melt composition data in a range of crustal environments, valuable insights are provided. This is particularly so concerning volcanic environments, metasomatized rocks, subduction zones, seafloor hydrothermal systems and geothermal systems. *Fluid-Fluid Interactions* may, by virtue of its title, result in purchase by some people expecting something more general about fluids in rocks. Be warned: this volume is focussed on fluid immiscibility.

Unfortunately, the volume does not have an index. However, the chapters are laid out clearly, and in consequence the volume is easy to navigate. The figures are in a quite consistent style, which is not always the case in such review volumes. They are clear and generally uncluttered, all of which makes for good teaching material. Most aspects, however, are quite advanced for an undergraduate course, and this volume will find more use at the postgraduate stage, including geochemistry courses, and in research.

1 Liebscher A, Heinrich CA (eds) (2007) *Fluid-Fluid Interactions*. Reviews in Mineralogy & Geochemistry 65, Mineralogical Society of America, Chantilly, VA, ISBN 978-0-939950-77-5, 430 pp, US\$40 (20% discount for MSA and GS members)

2 This review was first published in *The Canadian Mineralogist*, Volume 46, pp 1380. It is reprinted with permission from the Mineralogical Association of Canada.



Overall, *Fluid-Fluid Interactions* brings together key aspects of geological processes in a variety of environments where different fluids are juxtaposed, and the volume will serve the Earth sciences community well.

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weird and wonderful shadings and patterns in a variety of samples, including many from Scotland. Brian also gave away a large batch of agates in the exhibition afterwards. Thanks Brian! Kathryn Goodenough (6) gave a fascinating talk about the work being done by the British Geological Survey in Africa, in particular in Madagascar, where they are mapping a number of economic deposits and helping local scientists to use GIS methods for data management. Adrian Finch spoke about luminescence as an analytical tool in mineralogy, and Bob Symes (7) talked about responsible mineral collecting.

Many of the slide sets for the talks have been loaded on the Mineralogical Society website at www.minersoc.org/pages/meetings/meetings-archive.html (click on 'Nature's Treasures'). The images are particularly attractive as this was part of the brief to the speakers.

Thank you to all concerned, especially the speakers and exhibitors, for their efforts in making this a very successful and fun event.

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