

Apparent selective elemental disequilibrium between melt and mineral phases of the Haramul Mic lava dome

Wednesday, 7 July 2021
18:00 - 18:10

- *Online - Room 14*

Abstract

Haramul Mic is a ~0.15 km³ volume, crystal-rich, homogeneous, high-K dacite lava dome, which erupted in the Ciomadul Volcanic Complex (Romania, eastern-central Europe) ~160 kyrs ago after ~200 kyrs of quiescence. The lava dome rock has average crystal content of 35-40%, and the mineral assemblage consists of plagioclase, amphibole, biotite and accessory zircon, apatite, titanite and Fe-Ti oxides. The groundmass is mainly formed by perlitic glass with some microlites and sheared vesicles. Felsic crystal clots are common which comprise plagioclase, amphibole, biotite and interstitial vesicular glass (<10%). The dacite contains sparse enclaves with K-rich bulk composition, mainly composed of plagioclase and biotite, less amount of amphibole and interstitial glass (<10%).

Trace element content of glass and mineral phases was determined by LA-ICP-MS. The studied phases are slightly zoned but the last crystallization zones show mostly homogeneous compositions suggesting general equilibrium state in the magma storage system at 700-800 °C and 200-300 MPa before eruption. Exceptions are Li, Sc and Cr which have different concentrations in the host rock and the enclaves. The calculated mineral-melt trace element partition coefficients show similarities with those proposed for the Fish Canyon Tuff dacite (Bachmann et al., 2005) except for Li, Sc and Cr.

Glass in the enclave is enriched in Sc and Li compared to the groundmass glass of the host dacite. On the other hand, biotite in the enclave is enriched in Li and depleted in Sc compared to the biotite of the host rock. Li decreases rimward along plagioclase profiles in the dacite. The Li concentration differences may be interpreted as the result of degassing / diffusion during magma ascent and cooling. However, this is not observed in the enclave and the felsic clot implying retention of Li in the intercrystalline melt. Differences in Sc and Cr concentrations could be due to microlite content of the groundmass glass or suggest distinct magma batches within the magma reservoir.

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Bachmann et al., 2005: CMP, 149(3), 338-349.

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Dear Emese Pánczél,

Thank you for your submission to the Goldschmidt2021 conference.

We are pleased to inform you that your abstract **7921: "Apparent selective elemental disequilibrium between melt and mineral phases of the Haramul Mic lava dome"** has been reviewed and accepted for presentation at the conference.

As recently announced, Goldschmidt2021 will be a fully online virtual meeting. Details of the format of the conference are available [here](#).

Online Sessions and Presentations

Almost 200 live online sessions will take place from Monday 5th to Friday 9th July 2021 in the morning and afternoon European Time to accommodate presenters across all time zones. The live sessions will consist of a mix of 20-minute keynote talks, regular 10-minute oral presentations, 3-minute flash talks (1 summary slide) and discussion. Sessions will be recorded to allow all delegates to view them.

Unless you indicate to us that you do not wish to present live, all abstracts will be scheduled into one of these live online sessions, based wherever possible on your time zone so that you will not be required to present at unsociable hours.

By 17 April 2021: Please Confirm Your Time Zone

During abstract submission you were requested to enter your time zone information. In order to help your conveners schedule your presentation at a time most convenient for you, it is important that we have the correct information. This is the time zone we currently have for you in the system: **ECT (European Central Time)**

If you will not be in this time zone during the conference, please click [here](#) to update this information.

If you do not wish to present in a live online session, please click [here](#), by 17 April at the latest. If you decline this invitation to present, your abstract will still be published on the conference website and you will still be able to [register for the conference](#) in order to upload an e-presentation and to connect and meet up with other delegates, attend live sessions, view all online content and participate in the many other training and networking opportunities available as part of your registration.

Scheduling will begin in the next few weeks and once completed, we will be able to confirm when and how you will be presenting your work, as well as the specific details of what you will be required to upload in advance of your presentation.

Thank you again, and we look forward to welcoming you online to Goldschmidt2021 from wherever you are in the world!

Dan Frost and Maud Boyet
Goldschmidt2021 Organizing and Science Committee Co-Chairs

In case of technical queries, please contact goldschmidt@confex.com.

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