Fluid Inclusions of Quartz-Carbonate Veins in the Canadian Rocky Mountains

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POSTER

Fluid flow within the Earth's crust plays an important role in crustal processes such as the growth of curst, the deformation thereof, or the transport of heat, isotopes and chemical species [1]. Complex vein systems can be found in all kind of rocks as evidence for extensive fluid migration in mainly the upper crust, and for extensive mass transfer [2]. Furthermore, veins record information about the composition, temperature and pressure conditions of the original fluid that was migrating through the curst [3].

This study will attempt to characterize the formational sequence and origin of fluid inclusions observed in several samples extracted from a quartz-carbonate vein system in the Canadian Rocky Mountains, and the role of fluid-rock interaction in the formation of these veins. Previous studies propose potential origin and emplacement mechanisms of such fluids, but further investigation is required to fully understand the processes involved, and to understand to what extent these processes played a role in the Canadian Rocky Mountains.
At this early stage of the study we present the macroscopic description of hand specimen, the petrographic analysis of thin sections, and a first glimpse at fluid inclusions present in the samples.

References

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[3] Nesbitt, B.E., Muehlenbachs, K., 1989, Science (Washington, D.C.), 245:733-736.