Blue River carbonatites

Blue River carbonatites are the largest igneous province in the western margin of Laurentia. We study the western margin of Laurentia. We investigate the Blue River alkaline province. The most intense mineralization of these rocks.

Upper Fire depost

North-west geologic cross section through the upper Fire depost carbonatite complex hosting an unusual Ta-Nb deposit, one of the largest in B.C.

Geochemo

δ18O vs δ13C in Ce-Cr for separated carbonatite and dolomite from Perry River carbonatites, related rocks, and sedementary carbonates and Cariboo High (CH) units. NADK for the carbonatites.

Mante source

The data from OIB also define elongate emptying contours on the SFD. The pyrochlore (after Rukhlov et al., 2018). Compiled data from Ice River are for both separated mineral and whole-rock fractions (Locock, 1994; Mumford, 2009; Tappe & Simonetti, 2013). Fields for the Kola alkaline province and signature despite high-grade metamorphism and deformation, which contrasts with the data from Blue River. Ice River are the Blue River REE-rich carbonatite-dike swarm.

Superior pre-panarogrphy of migmatitic amphibolite from the Blue Rivercarbonatites. Mg-Ti rod forming boundaries replacing U-Th rich pyrochlore.

Data from the Blue River area for separated calc-alkaline and carbonatite fractions (after Rukhlov et al., 2018). Compiled data from Ice River are for both separated mineral and whole-rock fractions (Locock, 1994; Mumford, 2009; Tappe & Simonetti, 2013). Fields for the Kola alkaline province and signature despite high-grade metamorphism and deformation, which contrasts with the data from Blue River. Ice River are the Blue River REE-rich carbonatite-dike swarm.

Superior pre-panarogrphy of migmatitic amphibolite from the Blue Rivercarbonatites. Mg-Ti rod forming boundaries replacing U-Th rich pyrochlore. Ni 43-101-compliant resource:

Ca 810-700 Ma

Ernst & Bickle, 2010; Yaxley, 2010).

Ca 500 Ma

Porphyritic development of the rocks at a minimum in part related to the Paleoalkaline province of the Kola Peninsula in the Russian Federation. Edmond 

Ca 360-330 Ma

Sediment assimilation

VSMOW is a standard reference material for stable isotope analysis. Comparison of fractional, U-Th rich pyrochlore. Ni 43-101-compliant resource:

Conclusions

Paleogeographic reconstructions place the paleo-continental margin and hence the 810-133 Ma Blue River carbonatite province within the paleo-Pacific ocean. We suggest that the carbonatite province was derived from a long-lived, deep-sea mantle plume that initiated the subduction zone.

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Selected references cited
