

## **Syntectonic emplacement of an alkaline massif in Burundi: Consequences on fluid-rock interaction and element (REE, HFSE) mobility**

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Alkaline Massifs worldwide are generally atectonic. In Burundi, during the break-up of Rodinia, 700Ma ago, the Upper Ruvubu Alkaline Plutonic Complex (URAPC, Burundi) emplaced syntectonically. This complex displays a typical magmatic assemblage, including saturated and undersaturated series and a carbonatite body (the Matongo carbonatite). However, it can be distinguished from other alkaline massifs by its outstanding dimensions (~25x10 km) and its elliptic map contour. Large shear zones affecting the Massif accommodated a regional NE-SW shortening in the regional extensional setting associated with Rodinia breakup. Hydrothermal alteration is concentrated in these shear zones, which have acted as fluid conduits. The Massif hosts magmatic dykes and magmato-hydrothermal REE and HFSE mineralized veins, which strike NE-SW and have accommodated NW-SE stretching. C and O isotope characterization of the central Matongo carbonatite body attests for superimposed hydrothermal alterations, which induced REE and HFSE mobilizations on various scales.