

MAIN CHARACTERISTICS AND REVIEW OF MINERAL RESOURCES OF THE KABANGA-MUSONGATI MAFIC-ULTRAMAFIC ALIGNMENT IN BURUNDI.

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The 350 km-long Kabanga-Musongati (KM) mafic-ultramafic alignment (emplacement age of 1275 ± 11 Ma) extends from Burundi to Uganda. In Burundi, where the KM alignment consists of nine main massifs, special emphasis has been put on the degree of magmatic differentiation within each massif, in order to define stratigraphic units. The rocks are essentially cumulates, ranging from dunites to Fe-rich gabbro-norites. The main rock types are: peridotites (dunites, harzburgites, lherzolites), orthopyroxenites (bronzitites), norites (with bronzite or inverted pigeonite), gabbro-norites (with inverted pigeonite) and anorthosites. The cumulates display magmatic layering, igneous lamination and cryptic variations. Subordinate amounts of granophyres, amphibole-quartz norites, microgabbro-norites or dolerites are found in association with the cumulates. The stratigraphic units identified within the KM alignment in Burundi are the ultramafic zone, divided into a peridotitic subzone and a pyroxenitic-peridotitic subzone; and the mafic zone, divided into a noritic subzone and a gabbro-noritic subzone. Various specific units were defined within each subzone. The stratigraphic position and the likely origin of the well-known associated to the KM alignment are discussed in the light of the petrological results. The sulfide-rich layers in the pyroxenitic-peridotitic subzone may be linked to cyclic units. Sulfide segregation and precipitation due to new input of somewhat more primitive magma in the crystallizing magma chamber could explain the massive sulfides occurring at the top of the V-bearing titanomagnetite orebody of Mukanda (Mukanda anorthositic-noritic Unit of the gabbro-noritic subzone). The highest PGE's concentrations are found in the pyroxenitic-peridotitic subzone and in the submassive sulfides associated to the V-bearing titanomagnetite orebody.