Abstract
This work presents a geochemical study of a set of garnets, selected by their colors, from the Camafuca- Camazambo kimberlite, located on northeast Angola. Mantle-derived garnets were classified according to the scheme proposed by Grütter et al. (2004) and belong to the G1, G4, G9 and G10 groups. Both sub-calcic (G10) and Ca-saturated (G9) garnets, typical, respectively, of harzburgites and lherzolites, were identified. The solubility limit of knorringite molecule in G10D garnets suggests they have crystallized at a minimum pressure of about 40 to 45 kbar (4.45 GPa). The occurrence of diamond stabilityfield garnets (G10D) is a clear indicator of the potential of this kimberlite for diamond. The chemistry of the garnets suggests that the source for the kimberlite was a lherzolite that has suffered a partial melting that formed basaltic magma, leaving a harzburgite as a residue.

Keywords
kimberlite, diamond, garnet, lherzolite, harzburgite.