

PETROGRAPHY AND GEOCHEMISTRY OF TURBIDITIC METASEDIMENTS OF QUADRILÁTERO FERRÍFERO, MINAS GERAIS, BRAZIL

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The turbiditic metasediments of Quadrilátero Ferrífero are mainly represented by Nova Lima (Late Archean) and Sabará (Early Proterozoic) Groups. This paper was made in order to compare these sequences through petrographic and geochemistry data, leading to understand the crustal evolution operating in the Archean-Proterozoic boundary. The metasediments studied included the Ta-Te levels of Bouma, equivalent of Metagraywacke-Metapelitic Facies respectively. According to the analysis of metagraywacke, the Nova Lima Group could be divided into types I and II. The first one turbidites are older, with a minimum age of 2.857 ± 1 M.a, including the sections of the eastern portion of the Rio das Velhas Greenstone Belt and also some eventual tectonic wedges of the western portion. The turbidites of Type II are younger, yielding a minimum age of 2.701 ± 4 M.a and restricted to the mid-western and north-western regions of this belt. The source area of these sediments was of the mafic-felsic bimodal nature to the turbidites of Type I and purely mafic of Type II. The metasediments of Sabará Group were originated in a source area predominantly felsic, and together with metagraywackes of Type I are richer in SiO₂, Na₂O, K₂O, P₂O₅, Ba, Rb, Sr and in SiO₂/MgO, Zr/Cr e Th/Sc rates. Unlikely, the metagraywacke of Type II show a higher level concentration of TiO₂, Fe₂O₃, MgO, Cr, Ni, V, Sc, Co, Y, Cu, Zn and on Ti/Zr and Th/U rates in addition to the enrichment of K₂O, Ba, Rb elements and a slight negative anomaly of Eu.