

A brief account on mineralized geological settings of major auriferous regions of Brazil

MARTINI, S.L. - Geological Survey of Brazil - CPRM, Rio de Janeiro, Brazil.

Considering the geology of major auriferous regions of Brazil, it becomes apparent that the most significant contribution of metal comes from greenstone belts and kindred metamorphic volcanic-sedimentary units, mostly of Upper Archaean age. Main gold deposits found in this kind of setting are mesothermal lodes and deposits carrying gold as co-product of disseminated copper sulphides for which an exhalative nature, among others, has been proposed. Important gold in the auriferous regions under scope also occurs in essentially (meta)sedimentary environments, including Paleoproterozoic orthoquartzitic conglomerates with clastic gold deposits; Upper Archaean and Paleoproterozoic manganese- and/or carbon-bearing itabirites, metadolomites and metapelites containing structurally-controlled disseminated and vein mineralization; and Neoproterozoic greenschist facies carbonaceous shales with low-grade, high-tonnage metamorphic gold ore. In addition to this, gold is also found in Mesoproterozoic, granite-related epizonal and epithermal occurrences which have generated important secondary deposits. The above picture indicates a variety of mineralized geological settings and related mineralization styles in the major auriferous regions of Brazil. The settings may be seen as general exploration targets, particularly in the regions where they have already shown to carry mineralization. Furthermore, the occurrence of several of these geological settings displaying different ages and mineralization styles within the same region, as observed in various cases, allows for the suggestion that metal permanence and heritage may have played a significant role in the metallogenic building up of the regions.