

Evolution of Congo Central Basin and the continental diamantiferous units in Angola

PEREIRA, E.^{1,2}, RODRIGUES, J.^{1,2} and REIS, B.³

¹IGM, Porto, Portugal ²Dep. Minas, Faculdade Engenharia do Porto, Portugal, ³Geologist Consultant, Braga, Portugal.

The Congo Central Basin has his origin in Gondwana's interior and is surrounded by several foldbelts from Kibarian (1200±200 My) and Pan-African (850-540 My) cycles. After this last orogeny, the basin admits complex sedimentation initiated at middle Ordovician times by a transgressive sandy marine sequence overlain by pelagic mudstone sediments and at the top by arcotic sand.

Since this period, the sedimentation is completely continental. The endorheic drainage originates a terrigenous sequence comprising from base to top: Karroo Supergroup units; Stanleyville Group units; Loia and Bokungu Groups units.

After this sedimentation a period of tectonic extension and rifting takes place and is the cause of the formation of grabens of ENE – WSW direction that preserves some of the former continental deposits. Coeval with this tectonism is the alkaline magmatism, kimberlitic/lamproitic and carbonatitic intrusions.

A succession of erosion/sedimentation cycles succeeds the former tectonism and magmatism. The thick continental sequence originated comprises all the diamantiferous sedimentary units: Kwango Group; Kalahary Group and recent alluvial deposits. Thus, the knowledge of this succession of geologic events is fundamental for diamond exploration in Angola.