# PROVENANCE STUDY OF SANDSTONES OF THE APTIAN-ALBIAN MARIZAL FORMATION - SOUTH AND CENTRAL TUCANO SUB-BASINS (NOUTHESTERN - BRAZIL)

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LA-ICP-MS U-Pb analyses were carried out on detrital zircon grains from 5 sandstone samples from the Marizal Formation, South and Central Tucano Sub-Basins, with the aim of determining the ages of the source areas and recognize possible changes through time. The Marizal Formation was deposited during the post-rift stage of the Reconcavo-Tucano-Jatobá Rift (RTJ), between the Aptian and lower Albian. This unit comprises mainly fluvial deposits and less frequently alluvial fans and lacustrine deposits, consisting of sandstones, conglomerates, shales and minor limestones. The U-Pb zircon ages obtained in 420 grains comprise a wide interval, between 299 Ma and 3336 Ma. All samples show peaks of 520-720 Ma (~35%), 920-1120 Ma (12%), 1760-2240 Ma (20%) and 2500-2720 Ma (5%). Only one sample located in the northernmost portion of the basin is devoid of zircon younger than 500 Ma. This difference may be the result of insufficient sampling or the absence of younger rocks in the local catchment area. The preliminary results also showed that the nearest samples to the east margin of the studied sub-basins do not contain Mesoarchean and Paleoarchean zircon ages, while those located in the west margin bear grains with older ages (2889-3326 Ma). The integration of these results with published data allow us to suggest the São Francisco Craton (SFC) as the probable source of zircons of Meso- to Paleoarchean age. It is suggested that the Pernambuco-Alagoas Massif and SFC provided zircon of Neoarchean age and the Borborema Province rocks zircon of Paleoproterozoic, Mesoproterozoic and Neoproterozoic age. Younger (300 Ma) detrital zircon grains are not identified in the Borborema Province or the SFC, suggesting the existence of a more distal source, still not identified.