TECTONO-SEDIMENTARY SEQUENCES OF CAMPOS BASIN AND RECONSTRUCTION OF DRAINAGE EVOLUTION - SOUTHEASTERN BRAZIL

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The tectonic-sedimentary development of Campos Basin suggests the following stages of drainage evolution: PRE-RIFT: Uplift in southern Gondwana (2,000 Km wide), irradiating rivers to Brazil and Africa (Pirambóia, Sergi and Lucula fluvio-eolian sediments). RIFT: Gondwana break-up resulting in a huge fault-scarp (2-3 Km high). The hinge-line divided 2 domains: a low-gradient landward-dipping flank with consequent rivers, and a scarped front-face with high-gradient obsequent drainage (alluvial complex). SAG BASIN GOLF: Elastic rebound of rift shoulders increasing landward river gradients (fluvio-lacustrine Areado sediments). Alluvial complex prograded basinward, ending with a siliciclastic starvation due to scarp retreat. SHALLOW PLATFORM: Alluvial deposition restricted to proximal areas. TRANSGRESSIVE PHASE: Reactivation of Serra do Mar uplift with southward tilting, catching most of drainage to Santos Basin, causing retrogradation in Campos Basin. Fluvio-lacustrine Baurú deposition. AGGRADATION PHASE: Faulted blocks adjustment helped the proto-Pomba river to cut back Serra do Mar, extending its headwaters up to Mantiqueira Range, (increasing metamorphic fragments in turbidites). Opening the NE-trend of intra-mountain lacustrine basins. REGRESSIVE PHASE: Northward tilting, reverting and capturing the subsequent pre-Paraíba do Sul by the Pomba river. Headward erosion reached the Taubaté Basin, feeding the Campos prograding wedge, completing sedimentary load for its Petroleum System timing.