TECTONIC EPISODES FROM MIOCENE TO PRESENT AT THE JALISCO BLOCK (JB) BOUNDARIES

QUINTERO, Odranoel BARRIER, Erick Ins. Geol UNAM, Mexico City, Mexico. DEP. GEOTECTONIQUE UPMC, Paris, France.

Plate cinematic reorganizations induced six tectonic episodes in western Mexican Volcanic Belt from Miocene to Present to form the JB boundaries. In middle Miocene regional NW-SE compression produce wide NNW-SSE anticlines and synclines and compressive fracturing in southern Sierra Madre Occidental (SMO). In late Miocene (10Ma) Proto-Gulf extension produced NNW-SSE important normal faulting, which was exerted N73°. Alkaline basaltic volcanism and NNW-SSE and some dike intrusions accompanied this. About 8 Ma a new compressive episode took place producing only reverse and strike slip fracturing in preexisting rocks. A extension exerted N35° and N178° originated the birth of the Northern Border of JB started at Miocene-Pliocene boundary producing with NW-SE and N-S tensile structures. In early Pliocene about 4.6-4.2 Ma, cinematic reorganizations induced the opening of the mouth of Gulf of California and a new distensive tectonic episode oriented N127° developed Eastern Border and intense NE-SW and N-S fracturing. In late Pliocene Eastern Border became inactive and the Northern Border was reactivated under generalized NE-SW extension originating new NW-SE tensile structures. This extension was coeval with still active N-S extension in Chapala region, which migrated to south producing E-W Citala Graben. In Plio-Quaternary the extension in Northern Border became almost inactive and together extension in Citala Graben induced an accommodation zone to form Zacoalco Graben.