

RELATIONSHIPS BETWEEN OLIGOCENE FAULTING AND RHYOLITIC VOLCANISM IN THE TAXCO REGION, SOUTHERN MEXICO.

MORAN-ZENTENO, D.J., ALANIZ-ALVAREZ, S.A., NIETO-SAMANIEGO, A.F. and ALBA-ALDAVE, L. Instituto de Geología UNAM, México D.F., México

The Tertiary volcanic rocks of southern Mexico constitute a broad discontinuous volcanic arc with remarkable compositional variations and contrasting styles in the tectonic setting. The Taxco volcanic field belongs to this province and is located immediately to the south of the Trans-Mexican Volcanic Belt. It is characterized by a 800 m thick sequence of ignimbrites and rhyolites ranging in age from 38 to 31 Ma. The volcanic rocks transitionally overlies a pile of fluvial deposits and seems to postdate most of the epithermal veins of the Taxco Mining District, hosted along NW trending faults. The most conspicuous tectonic feature of the eastern part of the Taxco volcanic field is a group of north-trending strike-slip faults coeval with the volcanism. The recent finding of a NNW right-lateral fault zone southwest of the Taxco volcanic field suggests that the volcanic sequence was originated in the transfer zone between two right stepping segments of a regional right lateral system. Restricted extension produced the accumulation of fluvial deposits and facilitates the ascent of the silicic magma. There are indications that normal faulting, which should be expected in pull-apart basins, was in part compensated by the magma emplacement. The greater rate of deformation along the eastern segment of the transfer zone produced an asymmetric basin with higher subsidence to the east. The stress field associated with this deformation was also responsible for the reactivation of NW trending faults that host the mineralization.