

**PALEOMAGNETIC ANALYSIS OF THE SUBANDEAN CARBONIFEROUS ("GONDWANA") SEQUENCE IN BOLIVIA: IMPLICATIONS FOR THE APWP OF SOUTH AMERICA.**

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The Carboniferous sequence cropping out along the Subandean belt of Bolivia comprises, from bottom to top, the Itacua, Tubambi, Tarija, Chorro and Taiguati Formations (Machareti Group) and the Escarpment and San Telmo Formations (Mandiyuti Group). These units make up an entirely clastic sequence of colored sandstones, mudstones, shales, argillites and diamictites of marine to glacial-marine origin. The age of these strata is only approximately established, mostly on palynological and in part on invertebrate evidence, as belonging to the Early to Late Carboniferous. Carboniferous sediments in the Subandean belt are tectonically deformed by parallel holomorphic folding. Directions of fold axes in Central and Southern regions differ by about  $40^{\circ}$ - $60^{\circ}$ , and this apparent rotation may be associated with the postulated deformations in the Central Andes.

In the Southern Subandean region a sequence of more than 1,000 meters, which includes the Tupambi, Itacuami, Tarija, Chorro, Taiguati, Escarpment and San Telmo Formations was sampled for paleomagnetic analysis. The computed paleomagnetic poles describe a path that is in disagreement with any known Gondwana APWP for the Upper Paleozoic. Even the Taiguati pole is located far from the one determined by Creer (1970) from samples from the Central Subandean region. However, if the magnetization directions of the Southern Subandean samples are corrected by rotating declinations counterclockwise about  $40^{\circ}$ - $60^{\circ}$ , the resulting paleomagnetic poles for the upper part of the sequence (Chorro to San Telmo Formations) seem to follow the Carboniferous Gondwana APWP (Path Y) proposed by Morel and Irving (1978). The new computed southern Taiguati pole becomes closer to Creer's northern Taiguati pole. Therefore, due to the present lack of South American paleomagnetic poles for the lower Carboniferous, it is suggested that Morel and Irving's curve may well represent the Gondwana trajectory.

The poles for the lower part of the sequence, once rotated, become more consistent with Permo-Carboniferous ages, therefore suggesting that samples have been remagnetized as they are mostly purple to reddish in color and the red pigment seems to carry the remanent magnetization. However, chemical leaching and vector analysis failed to reveal any other characteristic magnetization component.