BASEMENT-INVOLVED THRUSTING IN THE EASTERN CORDILLERA-

anticlinorium. Cretaceous sediments unconformably overlying the folded and foliated Ordovician document a pre-Cretaceous orogenic event.

GRAVIMETRIC DATA

Gravimetric data measured by the Bolivian Instituto Geográfico Militar (IGM 1974) were tied to the IGSN 71 point in La Paz, Bolivia (Strunk 1990). Correction for topographic effects was based on the digital elevation model of Isacks (1988) and detailed topographic maps of the IGM, using the algorithm by Ehrismann & Lettau (1971). In calculating the Bouguer anomaly, a reduction density of 2.67 g/cm^3 was used with sea level as reference datum. For the 2D gravimetric modeling we used an interactive computer program based on the algorithm by Won & Bevis (1987) developed by the gravity working group at the FU Berlin.

BALANCED CROSS-SECTION AND GRAVIMETRIC INTERPRETATION

The thin-skinned tectonic style of the Subandean Ranges is evidenced by the existence of a gently west-

[redacted]

CONCLUSIONS

Gravimetrical data demonstrate that basement rocks become involved into thrusting immediately west of the Subandean Ranges. This limits the shortening value that can be deduced from balanced sections for the region from the undeformed foreland to the eastern part of the Eastern Cordillera to about 140 km. As these account for only about half of the shortening required to thicken the Andean crust to its present state, considerable shortening should have occured in areas farther west where extensive thrusting is often not evident at first sight. Besides the southern Altiplano., for which substantial shortening has been described (Baby et al. 1990), these regions may include the western part of the eastern Cordillera as well as areas which are now covered by Neogene to Recent volcanics.

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