

THE WESTERN MARGIN OF THE PAMPIA TERRANE

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The Córdoba, Pampia and Cuyania terranes of central-western Argentina have been accreted to the southwestern margin of Gondwana during Late Proterozoic to Early Paleozoic times. The eastern margin of the Pampia terrane is bounded by the Western Córdoba ultramafic belt, a mid-ocean ophiolite obducted during the Brasiliano Orogeny. The Valle Fértil Megashear has been interpreted as the western margin of the Pampia terrane based on the location of a first order mylonitic belt with western vergence, mafic-ultramafic rocks, and important gravity and magnetic anomalies. This zone is the tectonic boundary between the Pampia terrane and the Grenvillian age Cuyania terrane, derived from the Rodinia supercontinent. The megashear zone separates two metamorphic belts that have undergone partial melting. The eastern belt outcrops in the Sierra de La Huerta-Valle Fértil and it is represented by metasedimentary rocks of low P/T ratio metamorphic conditions and they are associated with granitoid rocks. These igneous and related metamorphic rocks represent the magmatic arc formed as result of subduction of the Iapetus ocean floor beneath the Pampia terrane. The western metamorphic belt outcrops in the Loma de Las Chacras area; the metapelites and garnet-amphibolites underwent medium P/T ratio condition and could represent an accretionary prism. The Valle Fértil Megashear has kinematic indicators that show that the eastern belt was thrust to the WNW onto the western belt. This thrusting was the result of the Early Paleozoic collisional event.