

Litho-structural characterization of the NW sector of the Velasco Range, Sierras Pampeanas, NW of Argentina.

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Sierra de Velasco presents the most extensive granitic outcrops in Sierras Pampeanas, in the NW of Argentina. Five main lito-structural units are identified based on photomorphologic, structural and petrographic characteristics.

1) the Porphiritic Granitic Unit is composed by porphiritic monzogranites-granodiorites with matrix of coarse grains and fenocrystals of K feldspar of up to 10 cm and it would constitute the oldest unit in the region. 2) the Cataclastic-mylonitic Unit is constituted by cataclasites and mylonites formed starting from the Porphiritic Granitic Unit and distributed in three bands of NNW direction of 3 km of width, related with strike-slip processes that would have taken place in the western margin of Gondwana during the upper Ordovician-Devonian. 3) the Sigmoidal Unit Pampa del Melao is located in the middle sector of the mountain and is characterized by this structure with the largest axis in a NNW direction and it is considered syncinematic with the dynamic event. 4) the San Blas Complex is constituted by porphiritic rocks (monzogranites to granodiorites) that appear in the northern region, developing a remarkable circular morphology and with depressed relief. This unit would be late to posttectonic with regard to the deformative regional phenomenon. 5) the Cordieritic Granitic Unit is of posttectonic character, its main characteristic are its content in aluminum silicates and its porphiritic texture.