

GEOLOGICAL STUDY OF THE LATE PALEOZOIC EASTERN ANDEAN METAMORPHIC COMPLEX, AYSÉN, CHILE.

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Three deformational events are recognized in the turbidite sequences of the Late Paleozoic Eastern Andean Metamorphic Complex which crops out between the lower Baker and Bravo rivers. Basin and dome structures, refolded B2 folds and steeply plunging B2 bands are present as superposition patterns, the latter ascribed to strain partitioning during accretion of the outboard Late Triassic Chonos Metamorphic Complex. Brittle fault fabrics are well developed in the metamorphic complex along the Bravo river area. The kinematical analysis of the mesoscopic faults yields an east-west compressional regime, hypothetically associated with the Mesozoic emplacement of the Patagonian Batholith that intrudes the metamorphic complex to the west. Metamorphic mineral assemblages along the Baker river area indicate greenschist metamorphic facies. Metamorphic conditions prograde towards the north, ranging from a lower temperature zone (chlorite-muscovite-albite) to a higher temperature zone (chlorite-muscovite-biotite-albite) which also includes chloritoid syntectonically related with the second deformation. Cordierite pseudomorphs, intertectonically related with the first deformation and biotite-chloritoid bearing assemblages, both in the higher temperature zone, reflect low pressure metamorphic conditions for the first and the second deformational events. Provenance studies based on detrital framework modes of the metagraywackes of the turbidite sequence reflect derivation from continental blocks, transitional between craton interior and basement uplift.