

## **PROTHOLITHS OF A METASEDIMENTARY SEQUENCE: A CASE STUDY ON THE EARLY PALEOZOIC PACIFIC MARGIN OF WESTERN GONDWANA**

1López de Luchi, M G, 1Cerrodo, M E, 2Rossello, E. A. 1CIRGEO, Buenos Aires, Argentina, 2Dpto. Ciencias Geológicas, FCEN, UBA, Buenos Aires, Argentina

Medium grade metamorphic basement of Sierra de San Luis (southern Sierras Pampeanas) includes metapsammites and metapelites. At its eastern flank this basement have been named Conlara Formation and considered as the result of a passive margin sequence that underwent high grade metamorphism and deformation between 540-520 Ma. Renewed research on the center-east outcrops of Conlara Formation recognized widespread metaclastic rocks exhibiting medium grade peak metamorphic conditions that were attained c. 470 Ma. Geochemistry of these rocks shows that the protholiths were mainly graywackes, semipelites and subordinated pelites with  $Al_2O_3/SiO_2$  from 0.175 to 0.28,  $Al_2O_3/CaO+Na_2O$  from 2.2 to 3.4 for  $Fe_2O_3t + MgO$  between 4.5-7.5 which together with REE patterns that show significative Eu-anomalies, moderate LREE enrichment and absence of HREE depletion are typical for various Phanerozoic active margin settings. In La-Th-Sc discrimination diagrams data plot in the continental/island arc field. Metamorphic peak age and geochemistry point to the existence of an active margin prior to 470 Ma and do not support the idea of an Early Cambrian passive margin evolution for the entire Conlara Formation. Therefore these data would reinforce the hypothesis of a Late Cambrian-Middle Ordovician active margin bordering western South America (the pre-collisional stage of the Famatinian Cycle).