

GEOCHRONOLOGICAL EVIDENCE FOR REWORKED NEOARCHEAN CRUST DURING TRANSAMAZONIAN OROGENY (2.1 GA) IN SOUTHEASTERN GUIANA SHIELD.

1LAFON J.M., 1AVELAR V.G., 2ROSSI P., 2DELOR C., 2GUERROT C. and 3PIDGEON R.T. 1UFPA, Belém, Brazil. 2BRGM Orléans, France. 3Curtin University of Technology, Perth, Australia

Pb evaporation and U-Pb SHRIMP on zircons from felsic granulites of the central region of the Amapá state in Brazil pointed out the existence of reworked Neoarchean basement (2.6 - 3.0 Ga) during Transamazonian orogeny at 2.1 Ga. Paleoproterozoic granitoids of this region also recorded a Neoarchean inherited component (207Pb/206Pb zircons ages = 2.56 - 2.61 Ga). TSr(UR) and TNd(DM) for the felsic granulites, tonalitic gneisses and felsic mobilisates indicate an episode of crustal accretion around 3.0 Ga. In the southeastern part of the French Guiana, detrital zircons from a metaquartzite gave Pb evaporation ages ranging between 2769 Ma and 3191 Ma. Inherited component with 207Pb/206Pb ages up to 2.87 Ga in zircons from Paleoproterozoic granitoids (2.1 - 2.13 Ga) also suggest the existence of reworked Neoarchean crust during Transamazonian orogeny. Nd systematics on the Paleoproterozoic granitoids yielded TNd(DM) ages mainly around 2.51 Ga, which are interpreted in terms of mixing between an oldest archean component (ca. 3.0 Ga) and Paleoproterozoic juvenile magmatism at 2.1 Ga rather than a 2.5 Ga accretion episode. The northward decreasing of Archean fingerprint strongly suggest that the Amapá - south French Guiana region represents a transitional domain between the Neoarchean Carajás Province (2.5 - 3.1 Ga) at south and the Paleoproterozoic juvenile domain of the northern French Guiana.