

10th SSAGI

South American Symposium
on Isotope Geology

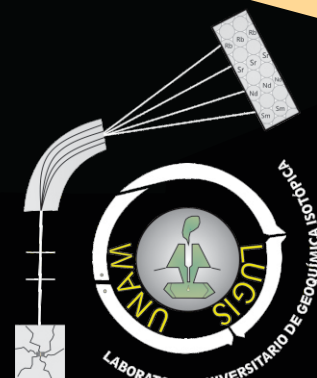
Latin America

Puerto Vallarta

México

May 22 - 25
2016

PROGRAM AND ABSTRACTS



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LUGIS

2016



**U-Pb SHRIMP AGES OF DETRITAL ZIRCONS FROM SERRA DOS REIS
QUARTZITE, SOUTHWESTERN AMAZONIAN CRATON, RONDÔNIA, BRAZIL:
PROVENANCE, DEPOSITIONAL AGE AND TECTONIC IMPLICATIONS.**

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Keywords: Mesoproterozoic, detrital zircon age, Sunsás-Aguapei province

Serra dos Reis is a narrow, elongated, 25 km long, and a roughly east-west oriented topographic elevation situated to the south of Rondônia state, near the boundary between Brazil and Bolivia. It is composed of quartzites that were recently included in the Colorado Complex (1.42-1.34 Ga), a meta-sedimentary sequence in the Guaporé suture zone (GSZ). The quartzites are partially unconformably covered by layers of underformed sedimentary breccia, feldspatic sandstone and conglomerate, which are probably part of the Palmeiral Formation (< 1030 Ma). The geologic contact between the quartzites and felsic rocks of the Ouro Fino (ca. 1350 Ma), São Domingos (1080 to 1050 Ma), and Costa Marques (ca. 1000 Ma) intrusive suites have not been observed in the field. Twenty-six U-Pb SHRIMP age determinations from detrital zircons (Th/U = 0.10 to 0.98) separated from a quartzite sample yield $^{207}\text{Pb}/^{206}\text{Pb}$ ages ranging from 1771 to 1351 Ma. The dominant age population has a range of 1483 to 1405 Ma (n=15) with a major peak at 1439 Ma and a minor peak at 1478 Ma. This detrital zircon age population is similar to the ages of mafic granulites and amphibolites from Trinchiera Complex (1470 – 1447 Ma), and tonalites from São Felipe and Rio Galera complexes (ca. 1460 Ma) in the GSZ. Minor older age populations ranging from 1584 to 1518 Ma (n=6) and 1771 to 1704 Ma (n=3) may be derived from granites of the Serra da Providência Intrusive Suite (1600 to 1530 Ma) and tonalitic gneisses of the Jamari Complex (1760-1740 Ma), respectively. The youngest age zircons at ca. 1351 Ma (n=2) constrains the maximum depositional age of the sandstone protolith, and indicates a much younger age than the Colorado Complex sedimentary protolith. The possible source rocks of the 1351 Ma zircons are granitoids of the Ouro Fino Intrusive Suite (ca. 1350 Ma), Pensamiento Granitoid Complex (1370 to 1340 Ma), Alto Candeias Intrusive Suite (1390 to 1340 Ma), and felsic and mafic plutons (1354 to 1340 Ma) in the GSZ. The 1351 Ma maximum depositional age of the sandstone protolith correlates with the Igarapé Quinze Formation (ca. 1357 Ma) and Aguapeí Group psammitic/pelitic protoliths (< 1350 Ma) in Brazil, and probably to the Sunsás and Vibosi Groups sedimentary protoliths in Bolivia. The sedimentation of these protoliths may be related to an initial extension phase (< 1.30 Ga), whereas the metamorphism and deformation to a later collisional phase (1.11-1.00 Ga) of the Sunsás-Aguapeí province.