

# Presentation

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**Paper No. 98-10**

**Presentation Time:** 9:00 AM-6:00 PM

## **EDIACARAN GNEISSES ALONG THE OSSA-MORENA - CENTRAL IBERIAN ZONE BOUNDARY, PORTUGAL; THEIR DISTRIBUTION, CHARACTER, AGE AND METAMORPHIC HISTORY**

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The studied area is located on the Ossa Morena-Central Iberian Zone boundary, where the following sequence is observed from base to top: the Pouchão Mafic Complex, the Mouriscas-Sardoal Gneisses and the Serie Negra Unit, all bounded by thrust faults. The Pouchão Mafic Complex and the Mouriscas-Sardoal Gneisses are high grade metamorphic rocks. The Serie Negra is a low grade volcano-sedimentary succession intruded by rhyolitic dykes. This paper reports the first radiometric ages obtained by U-Pb ID-TIMS method for the high grade metamorphic rocks. A Mouriscas-Sardoal granitic gneiss contains inherited Proterozoic zircon with ages that range up to 1900 Ma, igneous prismatic zircon with an age of  $570 \pm 5$  Ma and metamorphic monazite that yields an age of  $540 \pm 5$  Ma. The Pouchão Mafic Complex contains zircon with equant multi-faceted metamorphic morphology that also yields an age of  $539 \pm 3$  Ma for the high-grade metamorphic event. Igneous monazite from a rhyolite dyke cutting the Serie Negra succession yields an age of  $308 \pm 1$  Ma. These data outline a sequence of events; the formation of a magma that involved melting of a source that contained mid-Proterozoic material, magma crystallization at 570 Ma, followed by a metamorphic event at 540 Ma during the Cadomian Orogeny, with a second metamorphic overprint in the Variscan event.

[2009 Portland GSA Annual Meeting \(18-21 October 2009\)](#)

Session No. 98--Booth# 54

[Precambrian Geology \(Posters\)](#)

Oregon Convention Center: Hall A

9:00 AM-6:00 PM, Monday, 19 October 2009

Geological Society of America *Abstracts with Programs*, Vol. 41, No. 7, p. 270

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