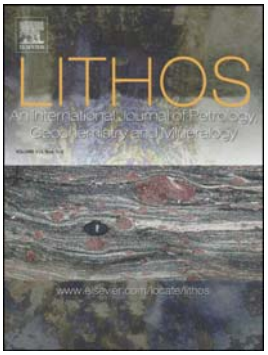

Cadomian magmatism and metamorphism at the Ossa Morena/Central Iberian zone boundary, Iberian Massif, Central Portugal: Geochemistry and *P-T* constraints of the Sardoal Complex

S.B.A. Henriques, A.M.R. Neiva, L. Tajčmanová, G.R. Dunning

PII: S0024-4937(16)30387-5
DOI: doi: 10.1016/j.lithos.2016.11.002
Reference: LITHOS 4135

To appear in: *LITHOS*

Received date: 28 January 2016
Accepted date: 2 November 2016

Please cite this article as: Henriques, S.B.A., Neiva, A.M.R., Tajčmanová, L., Dunning, G.R., Cadomian magmatism and metamorphism at the Ossa Morena/Central Iberian zone boundary, Iberian Massif, Central Portugal: Geochemistry and *P-T* constraints of the Sardoal Complex, *LITHOS* (2016), doi: 10.1016/j.lithos.2016.11.002

Cadomian magmatism and metamorphism at the Ossa Morena/Central Iberian zone boundary, Iberian Massif, Central Portugal: geochemistry and *P-T* constraints of the Sardoal Complex

S.B.A. Henriques [a*], A.M.R. Neiva [b], L. Tajčmanová [c], G.R. Dunning [d]

[a]Geobiotec, LNEG: Geology, Hydrogeology and Coastal Geology Department, Estrada da Portela, Bairro do Zambujal, Ap.7586-Alfragide, 2610-999 Amadora, Portugal

[b]Geobiotec, Department of Earth Sciences, University of Coimbra, 3030-790 Coimbra, Portugal

[c]Department of Earth Sciences, ETHZ, Clausiusstrasse 25, CH-8092, Zurich, Switzerland

[d]Earth Sciences Department, Memorial University, St. John's NL A1B 3X5 Canada;

*Corresponding author at: LNEG, Geology, Hydrogeology and Coastal Geology Department, Estrada da Portela, Bairro do Zambujal, Ap.7586-Alfragide, 2610-999 Amadora, Portugal. Tel.: +351 210924600; Fax: +35 1214719018

E-mail addresses: sbahgeo@gmail.com (S.B.A. Henriques), neiva@dct.uc.pt (A.M.R. Neiva), lucataj@gmail.com (L. Tajčmanová), gdunning@mun.ca (G.R. Dunning)

Abstract: A well preserved Cadomian basement is exposed in the Iberian Massif, Central Portugal, at the Ossa Morena/Central Iberian zone boundary, which allows the determination of reliable geochemical data. A sequence of Cadomian and Variscan magmatic and tectonometamorphic events has been already described for this area and are documented in other areas of the Avalonian-Cadomian orogen. However, the geochemical information concerning the Cadomian basement for this area is still limited. We present whole rock geochemical and oxygen isotopic information to characterize the igneous protoliths of the Sardoal Complex, located within the Tomar-Badajoz-Córdoba Shear Zone, and indentify their tectonic setting. We use detailed petrography, mineral chemistry and *P-T* data to characterize the final Cadomian tectonometamorphic event. The Sardoal Complex contains orthogneiss