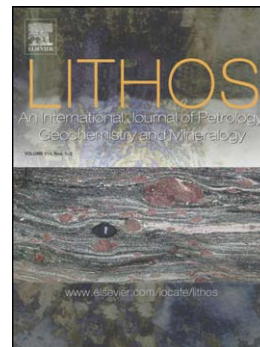


## Accepted Manuscript

Mineralogy, geochemistry, and petrology of Neoproterozoic ferroan to magnesian granites of Carajás Province, Amazonian Craton: The origin of hydrated granites associated with charnockites

Roberto Dall'Agnol, Ingrid Roberta Viana da Cunha, Fabriciana Vieira Guimarães, Davis Carvalho de Oliveira, Mayara Fraeda Barbosa Teixeira, Gilmar Regina Lima Feio, Claudio Nery Lamarão



PII: S0024-4937(16)30325-5  
DOI: doi:[10.1016/j.lithos.2016.09.032](https://doi.org/10.1016/j.lithos.2016.09.032)  
Reference: LITHOS 4094

To appear in: *LITHOS*

Received date: 29 February 2016  
Revised date: 10 September 2016  
Accepted date: 23 September 2016

Please cite this article as: Dall'Agnol, Roberto, da Cunha, Ingrid Roberta Viana, Guimarães, Fabriciana Vieira, de Oliveira, Davis Carvalho, Teixeira, Mayara Fraeda Barbosa, Feio, Gilmar Regina Lima, Lamarão, Claudio Nery, Mineralogy, geochemistry, and petrology of Neoproterozoic ferroan to magnesian granites of Carajás Province, Amazonian Craton: The origin of hydrated granites associated with charnockites, *LITHOS* (2016), doi:[10.1016/j.lithos.2016.09.032](https://doi.org/10.1016/j.lithos.2016.09.032)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

**Mineralogy, geochemistry, and petrology of Neoproterozoic ferroan to magnesian granites of Carajás Province, Amazonian Craton: The origin of hydrated granites associated with charnockites.**

Roberto Dall'Agnol<sup>1,2,3\*</sup>, Ingrid Roberta Viana da Cunha<sup>1,2</sup>, Fabriciana Vieira Guimarães<sup>1,2,5</sup>, Davis Carvalho de Oliveira<sup>1,2</sup>, Mayara Fraeda Barbosa Teixeira<sup>1,2</sup>, Gilmar Regina Lima Feio<sup>1,4</sup>, Claudio Nery Lamarão<sup>1,2</sup>

<sup>1</sup>Grupo de Pesquisa Petrologia de Granitoides, Instituto de Geociências (IG), Universidade Federal do Pará (UFPA), Rua Augusto Corrêa, 01. CEP 66075-110. Belém, PA, Brazil.

<sup>2</sup>Programa de Pós-graduação em Geologia e Geoquímica, IG-UFPA. Belém, PA, Brazil.

<sup>3</sup>Vale Institute of Technology, Belém, PA, Brazil.

<sup>4</sup>Universidade Federal do Sul-Sudeste do Pará (UNIFESSPA), Marabá, PA, Brazil.

<sup>5</sup>Universidade Federal do Oeste do Pará (UFOPA), Santarém, PA, Brazil.

\*Corresponding author

**Abstract**

2.75 to 2.73 Ga old granitic intrusions associated with coeval charnockitic rocks were emplaced in the northern domains of the Carajás Province. The Vila Jussara Suite was recognized recently and its geologic, mineralogical and geochemical characteristics are presented in this paper and compared with the data available in the literature on the Estrela Complex, Serra do Rabo and Igarapé Gelado granites and Planalto Suite. Monzogranites and syenogranites are dominant in most units but in the Igarapé Gelado Granite and Vila Jussara Suite granodiorites and tonalites are also relatively abundant. The main mafic phases in all these granitoids are amphibole [potassian hastingsite with subordinate magnesiohastingsite;  $0.95 \geq \text{Fe}/(\text{Fe}+\text{Mg}) \geq 0.47$ ] and biotite [ $0.88 \geq \text{Fe}/(\text{Fe}+\text{Mg}) \geq 0.52$ ] with rare occurrence of clinopyroxene relict crystals. Magmatic epidote (% of 'pistacite' component from 26 to 31) occurs only in the Vila Jussara Suite. The rocks of Estrela, Serra do Rabo, and Planalto units contain only ilmenite generally with coronas of titanite or ilmenite associated with magnetite and are essentially reduced-ferroan granites [whole rock  $\text{FeO}t/(\text{FeO}t+\text{MgO}) \geq 0.89$ ] that evolved at low  $f\text{O}_2$  (FMQ  $\pm 0.5$ ). The Igarapé Gelado Granite needs additional studies but it is formed apparently by reduced-ferroan and oxidized-ferroan granites. The Vila Jussara Suite is also composed of reduced-ferroan granites that are similar to those of the other granite units. However, it has additionally oxidized-ferroan and magnesian granitoids which contain magnetite ( $\pm$  ilmenite) as the main Fe-Ti oxide phase and evolved, respectively, at moderate  $f\text{O}_2$  (NNO  $\pm 0.5$ ) and at comparatively higher  $f\text{O}_2$  (NNO to NNO + 1). The magmas of these granites were formed at temperatures  $\geq$

Download English Version:

<https://daneshyari.com/en/article/5784078>

Download Persian Version:

<https://daneshyari.com/article/5784078>

[Daneshyari.com](https://daneshyari.com)