
Ceramic pigment analyses: Archaeometry to understand its use.

Pierluigi Rosina^{*1,2}, Susane Antonioli^{†3}, Sara Garcês^{‡4}, Vitor Gaspar^{§5}, Sérgio Klamt^{¶6},
and André Soares^{||7}

¹Polythecnic Institute of Tomar (IPT) – Portugal

²Instituto Politécnico de Tomar/Centro de Geociências (IPT) – Portugal

³Geomática da Universidade Federal de Santa Maria - UFS – Brazil

⁴Quaternary and Prehistory Group of Geosciences Centre (u. ID73 – FCT) Earth and Memory
Institute, Mação, Portugal – Portugal

⁵Instituto Politécnico de Tomar (IPT) – Portugal

⁶Departamento de Matemática, Universidade de Santa Cruz do Sul - UNISC – Brazil

⁷Departamento de História, Universidade Federal de Santa Maria - UFSM – Brazil

Abstract

The archaeological site RS-TQ-141 is located in the municipality of Cruzeiro do Sul, Rio Grande do Sul (Brazil) and it Guarani Tradition. The site is located between a plantation area and a large slope that extends to the bank of the Taquari River. The site comprises an assemblage of 642 ceramic fragments, 88 lithic objects and 17 samples of coal, soil and bone material. Of these, about 200 small fragments of ceramic present internal and / or external painted surfaces; however, there are issues concerning the shape and size of the vessel. Moreover, it is problematic in determining being the form of the vessel (e.g. pot, bowl, storage jars or drinking vessel). In the past, there have been several studies that have considered the functionality of these vessels, however, little progress has been made in terms of the analysis of the painted surfaces, be it its function, meanings or pertinent to our paper, the chemical analysis involved in the composition of pigments. Applying μ -FTIR methods it was possible to differentiate white and red pigments produced with different types of (ocher) clays. The pigments were produced with the same groups of clays used for the manufacture of ceramics. The presence of at least two groups of clay is recorded: one with more calcium (montmorillonite) than the other, and the other with more aluminum (kaolin). The white pigments are distinguished in the spectra by the presence of carbonate and more aluminum, and by the absence of magnetite. From this research, there does not seem to be any difference between internal and external pigments. Organic materials were detected, both in the pigment and in the production of the ceramics; the latter probably is related to pyrolysis phenomena. The organic residues present within the analysis could suggest the ceramic was used to cook foodstuffs and these in turn became attached to the pigments.

*Speaker

†Corresponding author: susane.antonioli@gmail.com

‡Corresponding author: saragarc.es.rockart@gmail.com

§Corresponding author: vgaspar@ipt.pt

¶Corresponding author: sergiocelioklamt@gmail.com

||Corresponding author: alrsoaressan@gmail.com

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