



**IDENTIFICATION OF PIGMENTS AND PAINTINGS IN  
ARCHAEOLOGICAL CERAMICS FROM SANAGASTA AND INKA  
CULTURES THROUGH SEM-EDS AND XRD (TINOGASTA, CATAMARCA,  
ARGENTINA)**

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**ABSTRACT**

Pigments and paintings used to decorate ceramic vessels by ancient potters are one of the most interesting research topics in ceramic ancient technology [1, 2]. The study of pre- and postfiring pigments and paintings applied to decorate vessels usually involves the exploration of ceramic surfaces by several analytical techniques (SEM-EDS, XPS, XRD,  $\mu$ XRD,  $\mu$ XRF, WD-EDS) capable to have a good resolution and sensitivity to determine the main chemical and mineralogical components of the paint layers [3, 4, 5]. In this paper we present the first results obtained as part of an ongoing research project involving the study of pigments and paintings used to decorate Sanagasta (Late Period, ca. AD 900 – AD 1100) and Inka (ca. AD 1480 – AD 1530) ceramic vessels from southern Abaucán Valley, Dept. of Tinogasta, Province of Catamarca, Argentina. The ceramic sherds are coming from the archaeological site Costa de Reyes. The ceramic painted surfaces were explored through SEM-EDS and in some cases polished cross-sections of the sherds were analysed to complete the mineralogical information. XRD was performed on ceramic pastes to gain information on the main mineral phases present. Paintings of several colours (black, white, red) were analysed by SEM-EDS, and the main results obtained indicate the use of mineral pigment sources to elaborate the decoration.

**Keywords:** SEM-EDS; Archaeological Ceramics; Late and Inka Periods

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