



## IDENTIFICATION OF POSTDEPOSITIONAL SECONDARY CALCITE IN ARCHAEOLOGICAL CERAMICS FROM SANAGASTA CULTURES THROUGH SEM-EDS (TINOGASTA, CATAMARCA, ARGENTINA)

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### ABSTRACT

Postdepositional secondary calcite (CaO<sub>3</sub>) has been identified in archaeological ceramics using several analytical techniques [1, 2, 3, 4]. Although secondary calcite has not been a problem for chemical characterization of archaeological ceramics at Northwestern Argentine due to the low concentrations of Ca observed in most of the analyses, it is necessary to develop a complementary approach to determine when we are observing the presence of primary or secondary calcite in archaeological ceramics. The presence of calcite (CaO<sub>3</sub>) as secondary phase has been cited by some authors [1, 2]. However, the identification and interpretation of secondary calcite have been always controversial and there are no clear and unified criteria for proper identification. In most of non-calcareous archaeological ceramics the presence of calcite comes from allochthonous or postdepositional sources and the subsequent recrystallization of mineral phases basically after firing. Secondary calcite presents three types of crystallization: (1) geodic facie, (2) microgranular aggregates, and (3) cryptocrystalline calcite, all of them present in ceramic pores and microfractures. In this paper, we will show how SEM-EDS analytical technique is a powerful tool for the proper identification of recrystallized secondary calcite in archaeological ceramics from Sanagasta Culture (Late Period, ca. AD 900 – AD 1100), Abaucán Valley, Dept. of Tinogasta, Province of Catamarca, Northwestern Argentine. Additionally, it will be showed how SEM-EDS can help to the study of the main micromorphological characteristics of this postdepositional mineral phase.

**Keywords:** SEM-EDS; Secondary Calcite; Archaeological Ceramics; LatePeriod (Northwestern Argentine)

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