



Characterization Of Pottery Vessels Excavated At The Archaeological Site Stobi in Republic of North Macedonia

B. Jankulovska, B. Peeva^{a*}, L. Robeva Čukovska,^b E. Fidanchevski^c

^a*National Institution Stobi, Archaeological site Stobi, 1420 Gradsko, Republic of N. Macedonia*

^b*NI National Conservation Center – Skopje, Central Chemical Laboratory, Josif Mihajlovic 7, 1000 Skopje, Republic of N. Macedonia*

^c*“Ss. Cyril and Methodius” University in Skopje, Faculty of Technology and Metallurgy, Ruger Boshkovich 16, 1000, Skopje, Republic of N. Macedonia*

**BiljanaJPeeva@gmail.com*

The primary goal of this study was to characterize three pottery vessels excavated at the archaeological site Stobi. The significance of the study lies in the fact that it presents an initial publication of research conducted on these objects, encompassing multiple analytical aspects such as chronology, technology and experimental analysis.

Based on comprehensive investigations, the examined objects exhibit distinct characteristics. Two of the analyzed vessels were chronologically attributed to the I to II century AD. One of these vessels demonstrates an original Terra Sigillata imported to Stobi, while the other suggests a locally made imitation of this type of pottery. The third sample originates from a bowl with imprinted decoration, which was characteristic of local ceramic production at Stobi during the Middle Roman Times, dating from the II to III century AD.

Three samples collected from each vessel underwent physical examinations (density and porosity), chemical analysis (SEM coupled with EDS) and mineralogical examination using XRD and FTIR techniques.

The sample of the original Terra Sigillata object exhibited the highest density (1.99% porosity), while the second and third samples displayed porosities of 10.01% and 11.20%, respectively. Regarding the mineralogical analysis, it is noteworthy that calcite was identified in all samples, following quartz and feldspar. The presence of calcite could be attributed to the used raw materials, but also to the post-production processes. The absence of certain clay minerals (kaolinite and chlorite) and the presence of neoformed high-temperature minerals such as anorthite, sanidine and diopside assess the conditions and sintering temperature (> 700 °C).

Keywords: pottery, conservation, porosity, Terra Sigillata, SEM-EDS, XRD and FTIR