

A preliminary archaeometric study of Aeneolithic anthropomorphic statues from Allai (Central Sardinia, Italy)

Marco SERRA^{1, 2*}, Valentina MAMELI³, C. CANNAS³

¹ Dipartimento di Scienze Storiche, Archeologiche e Antropologiche dell'Antichità, University of Rome La Sapienza, Rome, ITALY

² Dipartimento di Storia, Beni Culturali e Territorio, University of Cagliari, Cagliari, ITALY

³ Dipartimento di Scienze Chimiche e Geologiche, University of Cagliari, Cagliari, ITALY

* Email: marco.serra@unica.it

In the 1990s a number of anthropomorphic sculptures ("menhir statues") of ignimbritic rock, were found into the walls of the Nuragic tower of Arasseda-Allai (Sardinia, Italy). They had probably belonged to a nearby Aeneolithic sanctuary (III millennium BC) and they were reused as a building material by the Nuragics during the II millennium BC. Some of these megaliths have been removed from the proto-historic site and are now exposed at the Archaeological Museum of Laconi. Also an ancient quarry of volcanic blocks, which was probably used in the Prehistoric Age, has been discovered in the same area where the Nuraghe and the sculptures had been found. An autoptic and instrumental multi-technique approach has been carried out on 10 geological samples collected from the local volcanic stone of the Monte Ironi geological unit. On the geological material (two samples from Arasseda quarry and eight from other points of the outcrop) we have used a macroscopic survey and chemical analytical techniques such as ED-XRF by conventional and non-destructive approaches both, ICP-OES, and ICP-MS. This study has allowed us to determine the geochemical intra-source variability of the lithic raw material. Furthermore, the mineralogical investigation by X Ray Diffraction and the ICP data on geological samples have led to a definition of some technological properties of local geo-source. After testing the uniformity between the results of all geochemical techniques, on three sculptures from Arasseda, according to conservative requirements we have achieved only non-destructive fluorescence measurements and autoptic observations. Through the comparison between artifacts and lithological outcrop's analytical data, we have been able to define the source of origin of the raw materials employed for the Prehistoric megaliths and to establish spatial relationships between the stone sources and the sites where the sculptures had been found.

