



The first archaeometric characterization of obsidian artifacts from the archaeological site of Samshvilde (South Georgia, Caucasus)

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Abstract

This paper presents the first results about the provenance of obsidian fragments recovered in the archaeological site of Samshvilde (South Georgia, Caucasus) with the aim to obtain knowledge related to the network distribution and procurement of obsidian in Georgia. The geochemical characterization of thirty archaeological finds was obtained by the LA-ICP-MS method, an almost non-destructive technique capable of chemically characterizing the volcanic glass. A comparison of geochemical results obtained on both archaeological artefacts and geological samples collected from Chikiani outcrop in Georgia, together with literature data of southern Caucasus and eastern Turkey, allowed us to define the source of the archaeological obsidians of Samshvilde site. The majority of archaeological samples (28/30) shows a local provenance, precisely from Chikiani (Georgia) on the contrary the other two samples suggest a provenance from two different Armenian sources respectively Gegham and Akhurian volcanic system.

Keywords Obsidian · Trace elements · LA-ICP-MS · Samshvilde · Georgia

Introduction and archaeological background

Samshvilde is an archaeological complex situated in Kvemo Kartli province, in the southern-central part of Georgia. It occupies a long basalt cape that rises above the confluence of two important rivers—the Khrami and Chivchava (Fig. 1). The medieval city covered the entire length of the cape, and its layout was arranged according to the occupations and status of the population: the western part of the city, which may have been the residential area of the lower classes, was separated from the central part where nobles resided by a 4 m high and 2.5 m wide stone wall. The central district was separated from the easternmost part of the city, where high-status

structures were located, by a 12 m high and 7 m wide fortification wall, forming a citadel. Such heavily fortified well-preserved defensive systems are characterized only for most important sites in the southern Caucasus.

Georgian historic tradition associates the foundation of Samshvilde with the Hellenistic period, while current archaeological project has detected proof of occupation dating back to the Neolithic times. Anyway, it is recognized that Samshvilde was founded as an urban political-economic center only in the early medieval period, in particular, during the fifth–sixth centuries (Sanadze 2016).

As the Arabs appeared in Transcaucasia during the mid-eighth century, a substantial part of eastern Georgia, including Samshvilde, was placed under the jurisdiction of the Arab Emir. This arrangement continued until the mid-ninth century when the region fell under influence of the Armenian royal Bagratuni dynasty of Shirak. In the tenth century, Samshvilde was the capital of the Armenian Kingdom of Tashir-Dzoraget, which was a vassal of the Kingdom of Ani. From the second half of the eleventh century Samshvilde was under the influence of Seljuk Turks, and this continued until 1110, when it was liberated by King of Georgia - David IV (the Builder) and placed under the jurisdiction of the Georgian State.

Various Georgian feudal families controlled Samshvilde in the late medieval and post-medieval period. First, the

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