



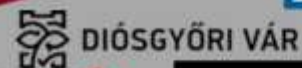
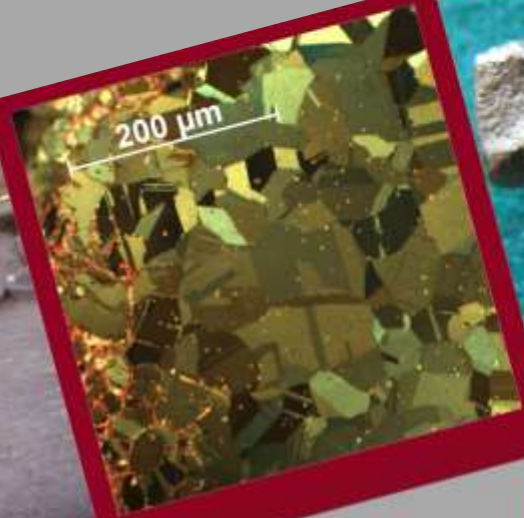
5th International Conference Archaeometallurgy in Europe 2019

University of Miskolc, Hungary

19th - 21st June, 2019



Abstracts



MISKOLCI EGYETEM
MŰSZAKI ANYAGTUDOMÁNYI KAR



KULCHIGA - RARE FERROUS METALLURGICAL COMPLEX OF PRE-VOLGA REGION 13-14 CENTURIES (RUSSIA)

EUGENIA SHAYKHUTDINOVA^{1,a}, AZAT FAKHRETDINOV^{2,b}

¹Institute of Archaeology, Tatarstan Academy of Sciences, Kazan, Russian Federation/Kazan National Research Technical University named after A.N.Tupolev - KAI, Kazan, Russian Federation/Kazan Federal University, Kazan, Russian Federation, ²LLC "Applied archaeology", Kazan, Russian Federation

^aeugen.shaykhutdinova@gmail.com

The ferrous metallurgical complex of 13 centuries was found in 2018 in the Middle Volga (Russia) during the rescue archaeological excavations – Kulchiga settlement. The territory between the Sviyaga (west) and Volga (east) rivers was characterized by a low density of fortified and unfortified settlements before and during the Golden Horde period. Most of them are located near the Volga River. Kulchiga was located to the west 40 km from the Volga River, and 50 km from the large medieval regional center - the Bulgar settlement. Bulgar was the capital of the Ulus Juchi (Golden Horde) (territory of the Volga-Kama interfluvium) in the 1242-1246 AD. The active development of the Volga-Sviyaga interfluvium began in the Golden Horde period (13-14 centuries) with the arrival of the population on this territory.

The Golden Horde fortified settlement nearest to Kulchiga was located 20 km away, which indicates its uniqueness and suggests that there is also an undiscovered medieval settlement nearby. This is also confirmed by the fact that some finds of the Golden Horde period were found 2 km east from Kulchiga.

A metallurgical area of about 12 by 6 meters was discovered in the excavation site. It consisted of:

- the pit with air intake and a metallurgical furnace in the center with melting pot remains and slags,
- the tread down area with coal, ashes, slags and two used melting pots,
- the pit for water.

The partially exposed brick metallurgical furnace was found in the excavation walls. Traces of pillar pits were found near the production complex, probably for a shelter.

370 finds were found in the excavation site. The majority number of artifacts were splashes, slags, melting pot and more. Fragments of pottery from the early 13th and 14th centuries were also discovered.

Some of the finds were researched to the optical emission spectral analysis for the chemical composition, petrographic and X-ray structural analysis for the mineralogical composition. The comparative study with similar findings of the Bulgarian fortified settlement has been carried out. The results of the comprehensive research allow to supplement the view of the development of ferrous metallurgy in the Middle Volga and the area of distribution of the Golden Horde (Ulus Juchi) in the territory between the Sviyaga and Kama rivers.