

# Comparison of raw clay from different localities for application in the production of traditional pottery in Serbia

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#### **P4**

### **Examination of mineral composition and color origin in natural pigments from France and Finland that are stored in the collection of rocks and minerals, University of Belgrade**

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The natural mineral pigments, known as ocher, are stored in The Collection of Rocks and Minerals, Faculty of Mining and Geology, University of Belgrade. Powdered samples of yellow limonite from France (No.421) and red limonite from Finland (No.423) were donated at the end of the XIX century by St. Petersburg Mining Institute. As ocher consists of a mixture of clay minerals, sand and iron oxide/hydroxide, its color depends on the presence of the particular mineral. This work aimed to examine the mineral composition and color of raw and annealed (1000 °C) samples by application of NIR-VIS infrared spectroscopy. Sample No.421 consists of a halloysite-kaolinite clay mixture, with a yellowish-orange (580nm) color that changes to reddish-orange (595nm) after annealing. Sample No.423 consists of kaolinite clay, it is reddish-orange (599nm) in color with a slight change of wavelength after treatment (603nm). Further investigation is needed to determine the influence of chemistry on the final color.

#### **P5**

### **Comparison of raw clay from different localities for application in the production of traditional pottery in Serbia**

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In western Serbia, the modelling technique and technological procedure of traditional pottery production still rely on a “slow wheel” combined with the coiling technique while in the eastern parts of Serbia traditional pottery is produced by hand with the help of several wooden and metal tools. The optimal way of making these types of pottery vessels is dictated by the composition of the clay body that is used in the production. By comparison of two raw clay bodies from different localities and based on their mineralogy, obtained by X-ray diffraction, scanning electron microscope and differential thermal analyses, we have gained insight into the process of selection in the production technique characteristic for the specific type of pottery in the investigated regions in Serbia. The obtained information will additionally aid in the preservation of this type of intangible cultural and geo heritage.

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