The study of mineralogical and industrial properties of clay soil in Chah-Shoor mine, Varzaneh, south east of Isfahan

M. Khodami\textsuperscript{1*}, A. Kamali Shervedani\textsuperscript{2}

1. Department of Geology, Faculty of Sciences, Yazd University, Iran
2. Department of Geology, Faculty of Sciences, Shahrekord University, Iran

(Received: 14/12/2014, in revised form: 3/3/2015)

Abstract: Chah-Shoor kaolin mine is located about 150 km southeast of Isfahan and also located in the central Iran structural zone, Urumieh-dokhtar volcanic belt. Eocene Igneous rocks consist of andesite, tuffs and quaternary deposits have covered the area. Based on petrographic studies, the main minerals in the volcanic rocks are K- feldspar, quartz and plagioclase. Hydrothermal alteration has produced industrial soil. The major phases in this reservoir are kaolinite, illite, muscovite and residual of quartz, albite, and orthoclase and minor phases are montmorillonite, chlorite and hematite. Geochemical studies and physical tests show the clay soils of the mine have the range of color after firing from cream to brown, medium absorption of the water and high drying resistance, high firing resistance. The samples of Chah-Shoor Varzaneh have compared with industries standard. Industrial soil in Chah-Shoor is suitable for tile and ceramic industries; while for other application need to procreation.

Keywords: Industrial soil, kaolin, ceramic, Chah-Shoor Varzaneh, Urumieh-Dokhtar

*Corresponding author, Tel: 03531233269, fax:03538210644, Email: khodami_m@yahoo.com