Study of volcaniclastic deposits and formation style of bentonite mine of Chahriseh Abgarm anticline (Northeast of Isfahan)

S. H. Khatami Shal1, M. A. Mackizadeh2 & H. Shamsabadi3
1) M.Sc., Department of Geology, Isfahan University, Isfahan, Iran, Khatamishall@gmail.com
2) Assistant Prof., Department of Geology, Isfahan University, Isfahan, Iran
3) Expert, Isfahan Saba tile Company
*) Correspondence Author


Abstract
The bentonite mine of Chahriseh Abgarm anticline is located in the topmost part of the Lower Red Formation in the Chahriseh region and attached to Qom Formation. In terms of structural-sedimentary zonation, it is located in the edge of Sahand-Bezman band. This mine is nonlaminated and can be seen as mounds close to the yellowish limestones of the Qom Formation. Analysis of XRD results showed that clay mineral Montmorillonite forms over 88% of the bentonitic sample volume. Based on the data obtained from sectional microscopic analysis, the parent rock of this mine consists of volcanic ash that is composed of andesite. Following its deposition in a closed pool environment, the volcanic ash has altered into bentonite inorganic matter as a result of digenetic reactions after burial by sand and conglomerate sediments. This clay deposit is classified as halmyrolysis clay. This mine is one of the largest and most important of the bentonite mines in Isfahan region.

Key words: andesite, Chahriseh, halmyrolysis clay, Lower Red Formation, montmorillonite,