

Our results and the seismicity map obtained from the Kaltek method showed very good consistency with the tectonic and earthquake activity in the region. The minimum, maximum and average b-values are determined as $b_{\min}=0.65$, $b_{\max}=1.30$ and $b_{\text{avr}}=1.05$, respectively. From the map view of the b-value, we distinguished two aseismic zones of different sizes in the Aegean Sea. These zones are characterized by high b-values ($b=1.15-1.25$). First zone locates off the Crete Island between $23.4-25.6^{\circ}\text{E}$ and $35.4-36.4^{\circ}\text{N}$. The second zone is placed between $23.4-26.6^{\circ}\text{E}$ and $37.0-38.4^{\circ}\text{N}$ on the Cycladic units in the Aegean Sea.

Bolkardağı bauxite deposits at Ayrancı, Karaman, Central Turkey. Part 2. Mineralogical and petrographical studies

Kansun G.¹, Yalcin M.G.² and Copuroglu I.³

¹*Department of Geology Engineering, Selçuk University, 42075 Konya, Turkey, gkansun@selcuk.edu.tr*

²*Department of Geology Engineering, Niğde University, 51200 Niğde, Turkey, gurhan46@nigde.edu.tr*

³*Department of Geology Engineering, Niğde University, 51200 Niğde, Turkey, icopuroglu@nigde.edu.tr*

The studied area is located 15 km southeast of Ayrancı (Karaman) district, covering an area of about 300 km². The aim of this study is the petrographic definition of the bauxite. For this purpose thin and polished sections of over 30 samples from bauxite were examined that and X-ray Diffraction (XRD) analyses were carried out. In the area, there is a Permian - Cretaceous aged rock of the Bolkardağı unit which is one of the tectonic nappes, overburden by Miocene aged formations. The bauxite ore bodies are observed between dolostone and limestone which belong to the Upper Permian Dedeköy Formation. The bauxite is taught because of it became terrestrial emerging during Late Triassic-Early Jurassic (?) period. The bauxite consists of different amounts of diaspore, hematite, and clay minerals. Ore paragenesis is reported as diaspore, hematite, kaolinite, anatase, rutile, sphene, calcite, muscovite, magnetite, quartz, goethite, chlorite, amorphous iron- and aluminum-hydroxide, gibbsite, boehmite, illite, specularite, epidote, chalcedony, amphibole and psilomelane. Inside bauxite, different ore types which have different appearance can be defined. These different appearances emerge essentially depending on the prevalence of diaspore, hematite and clay minerals, and they pass into vertical and horizontal transitions to each other. These ore types are black bauxite, brown bauxite, oolitic bauxite and clayey bauxite.

Continuous extra-framework Na⁺ release from Greek analcime-rich volcanoclastic rocks on exchange with NH⁺

Kantiranis N.¹, Sikalidis C.², Papastergios G.¹, Squires C.¹ and Filippidis A.¹

¹*Department of Mineralogy-Petrology-Economic Geology, Aristotle University, 54124 Thessaloniki, Greece, kantira@geo.auth.gr, gpapaste@geo.auth.gr, anestis@geo.auth.gr*

²*Department of Chemical Engineering, Aristotle University, 54124 Thessaloniki, Greece, sikalidi@auth.gr*

The continuous extra-framework cations release from Greek analcime-rich rock sample was studied, upon ammonium acetate exchange experiments (agitation time 0.25-720 hours), using atomic absorption spectrometry. The analcime-rich material was examined by X-ray powder diffraction, scanning electron microscopy equipped with energy dispersive micro-analytical system and atomic absorption spectrometry. Its sorption ability was measured using the Ammonium Acetate Saturation method. The monovalent cations K⁺ and Na⁺ after 720 hours, show only 7 and 10% of exchange, respectively. No steady state achieved for Na⁺. The bivalent cations Ca²⁺ and Mg²⁺ show better exchange, 97% for Ca²⁺ and 62% for Mg²⁺. The calculated rate of ion-exchange was 0.01 ppm/h for K⁺ and Mg²⁺, while 0.13 ppm/h for Na⁺ and Ca²⁺. The recorded behaviour on the multi-component ion-exchange system and the linear release of Na⁺ over NH₄⁺ observed at a slow rate of ion-exchange, can allow us to propose studied analcime-rich rock as a potential material for waste-water purification and pet litter.