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Pertek (Tunceli) Batısında Yüzeyleyen Üst Kretase Yaşlı Plütonik Kayaçların Petrografik ve Jeokimyasal Özellikleri: İlk Bulgular

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Özet – Bu çalışmada, Tunceli ili Pertek ilçesi batısında yüzeyleyen Elazığ Magmatik Kompleks’ine ait plütonik kayaçların petrografik ve jeokimyasal özellikleri incelenerek ilgili kayaçların petrojenezinin ortaya çıkarılması hedeflenmiştir. Çalışma alanındaki jeolojik formasyonlar; Karbonifer–Triyas yaşlı Keban Metamorfikleri, Üst Kretase yaşlı Elazığ Magmatik Kompleksi, Orta Eosen–Üst Oligosen yaşlı Kırkgeçit Formasyonu ve Üst Miyosen yaşlı Karabakır Formasyonu’dur. Elazığ Magmatik Kompleks’ine ait plütonik kayaçlar Keban Metamorfikleri ile tektonik dokanaklıdır. İncelenen plütonik kayaçlar petrografik olarak, genellikle orta-iri taneli granit, granodiyorit, diyorit, monzodiyorit, kuvars monzodiyorit ve kuvars monzonit bileşimindedir. Bu kayaçlar genel olarak granitik, porfirik holokristalen, poiklitik ve grafik doku sergilemektedir. Bileşimsel olarak toleyitikten yüksek-K’lu kalkalkalen özelliğine kadar değişen kayaçlar, I tipi granit karakterindedir. İlkse mantoya göre normalize edilmiş spider diyagramlarında; K ve Rb pozitif anomali gösterirken; Nb, Ta ve Ti gibi yüksek alan enerjili elementler negatif anomali göstermektedir. İz elementlerdeki bu dağılımlar ilgili kayaçları petrojenezinde yitim bileşeninin rol oynadığını göstermektedir. Kondrite göre normalize edilmiş spider diyagramlarında, hafif nadir toprak elementleri ağır nadir toprak elementlerine oranla daha yüksek oranda zenginleşmiştir. İncelenen örneklerde belirgin şekilde görülen negatif Eu anomali (Eu/Eu*=0.10–0.17) plajiyoklas fraksiyonlaşmasını veya kısmi ergime sırasında plajiyoklasın kaynak kayaçta tutulmasını göstermektedir. Özellikle ortalama Nb/Ta (7.28), Zr/Hf (25.11), Th/U (6.98) ve Th/Ta (10.11) oranlarının yüksek oluşu, bu kayaçların oluşumunda kabuksal kökene işaret etmektedir. İncelenen magmatik kayaçların tektonik ortamı için volkanik yay granitleri/çarpışma sonrası alan önerilmektedir.

Anahtar Kelimeler – Elazığ Magmatik Kompleksi, Petrografi, Jeokimya, Pertek, Tunceli

Petrographic and Geochemical Characteristics of Late Cretaceous Plutonic Rocks Outcropping Western Pertek (Tunceli): First Findings

Abstract – This study, it was aimed to reveal the petrogenesis of the related rocks by examining the petrographic and geochemical properties of the plutonic rocks belonging to the Elazig Magmatic Complex outcropping in the Western Pertek district of Tunceli province. The geological formations in the study area are Carboniferous–Triassic Keban Metamorphics, Late Cretaceous Elazığ Magmatic Complex, Middle Eocene–Late Oligocene Kırkgeçit Formation and Late Miocene Karabakır Formation. Plutonic rocks of Elazig Magmatic Complex are in tectonic contact with Keban Metamorphics. The studied plutonic rocks are petrographically in the composition of medium-coarse grained granite, granodiorite, diorite,

monzodiorite, quartz monzodiorite and quartz monzonite. These rocks generally exhibit granitic, porphyric holocrystalline, poikilitic and graphic textures. Studied rocks are ranging from tholeiitic to high-K calc-alkaline in composition and are I-type granite characters. K and Rb show positive anomalies, whereas high field strength elements such as Nb, Ta and Ti show negative anomalies in the primitive-mantle-normalised spider diagrams. These distributions in trace elements indicate that the subduction component plays a role in the petrogenesis of the related rocks. Light rare earth elements are more enriched than heavy rare earth elements in the chondrite-normalised spider diagrams. The negative Eu anomaly ($Eu/Eu^*=0.10-0.17$) seen in the samples indicates plagioclase fractionation or retention of plagioclase in the source rock during partial melting. Particularly the high average Nb/Ta (7.28), Zr/Hf (25.11), Th/U (6.98) and Th/Ta (10.11) ratios indicate a crustal origin in the formation of these rocks. Volcanic arc granites/post-collisional field is suggested for the tectonic environment of the investigated igneous rocks.

Keywords – Elazığ Magmatic Complex, Petrography, Geochemistry, Pertek, Tunceli
