

## **Understanding Rare Earth Elements Enrichments on the border of Ophiolitic Rocks and Schists (Southern Uludag)**

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Uludag is a mountain which is dominantly occurred with main orogenic plate movements progressed between two crust. There is a long subduction line at the south of Uludag. Because of these we observe many different type of rocks in the range of ultra-basics to nearly acidics. First of all characterized structures on the field determined. We observed that intrusion related rocks has formed and altered by high grade hydrothermal activity. This study approaches to understand bigger to smaller frameworks of these processes which between plate tectonics, fluid pathways and lithological unions. On the region many place is far away from general structure of ophiolites but locally it is possible to observe characterized lithologic unions and structures. One of these is sheeted dykes which has formed as butterfly structure. It is possible to observe pillow lavas. Additionally pillow lavas not clearly intelligible because of the forest and plant cover. Between the sheeted dykes and pillow lavas it is distinct to say gabbroic layer exists. Gabbroic layer does not exist with the specific structures like gabbro but it exists with border of basic chemical compositions. Age data and determined structure present us schist is metamorphosed with the oceanic crust movements. All the plate movements constituted important faults on the region. Faults and deformation structures seem most important impact factor on alteration and hydrothermal fluid movements. These hydrothermal fluids work by pathways which mainly generated on the border of important faults. Geochemistry analyses about yttrium, lanthanum, cerium and neodymium demonstrates us important anomalies. Total Rare Element amount is between 200 and 500 ppm for the enriched samples. Rare earth elements enrichment is most relevant with schists. Literature investigations show that it is controlled by structural factors. Source of elements are mainly ophiolites which contain basic and ultra basic rocks. It enriches at the border of ophiolite and schist while plate movements continue.