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Geochemistry of Chromite Occurences of Divrigi Area, Turkey

C. Oztürk (2), E. Varol (1), and T. Ünlü (3)

(2) (cozturk@eng.ankara.edu.tr)Faculty of Engineering, department of Geological Engineering, 06100. Tandogan/Ankara, Turkey, (1) (ecee.varoll@gmail.com), Ankara University, Faculty of Engineering, department of Geological Engineering, 06100. Tandogan/Ankara, Turkey, (3) (tunlu@eng.ankara.edu.tr)Faculty of Engineering, department of Geological Engineering, 06100. Tandogan/Ankara, Turkey

In this study, element contents and variations of chromite minerals in the samples complied from peridotites and serpentinites representing the rocks of Güneş ophiolite around Divriği area, Sivas, will be interpreted.
Microprope studies carried on chromite samples indicate two different type of chromite chemistry. First type is Al-poor and second type is Al-rich chromites both are oxidized and exhibit oxidizing trends to Fe+3.
Analytical results point out alterations in chromites. In first type chromites, decreasing of Cr and increasing of Fe+3 is observed. This result can be interpreted as either Cr is decreased in the solution due to crystallization of chromite during the reactions occuring in magma or as a result of oxygen fugacity in magma, enrichment of Fe+3 ions in crystal lattice of chromites. At the following stage, by the affect of solutions circulating in peridotites which caused serpentinization, the processes developed under reduced conditions can be explained by, while Cr is moving away from the environment Fe+3 is increasing relatively. In the meantime, this development in the name of Fe+3 indicate relatively oxidation conditions in the environment. Granitic rock affects at the last stage are the continuation of previous stage. During Cr decrease in the environment ferrichromites are formed. Because of serpentinization and other affects, Fe elemnt increases in the environment, early formed minerals are encompassed by magnetites and hematites. In addition to, Cr elements are binded in magnetites, so chromium rich magnetites are formed.
If the above mentioned reactions ocur slowly as in the case of serpentinization zoned structures like diffusion form. On the contrary, fast developing processes are effective in solutions related with granitic rocks, resorption structures are widespreadly observed.
Key words: Divriği, chromite, microprobe, alteration