

Geochemistry of biotites in Ali-Abad and Darreh-Zereshk porphyry copper deposits, Yazd, Central Iran

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Darreh-Zereshk and Ali-Abad are two relatively small porphyry copper deposits in Central Iran. The biotite compositions used to interpret nature, physicochemical conditions of magma source and petrogenesis of these granitoid rocks. Biotites from granitoids of the Aliabad-Darreh Zereshk areas are green and brown types. On the basis of IMA classification, these biotites can be classified mainly as phlogopite on the basis of ratios of $100 \text{ (Mg / (Mg + Fe))}$ which vary between 17 and 22. Also, plotting of $100\text{Fe}_t / (\text{Fe}_t + \text{Mg})$ ratio of the studied biotites on a stability diagram correspond to temperature about 600 to 750°C and confirming magmatic origin for these biotites. In addition, biotite composition used for discrimination of the granitoid magma. The chemical composition of studied biotites show that the granitoids of the Aliabad-Darreh Zereshk areas are calc - alkaline I-type.

The main substance constitutes and chemical composition characters of the dust in the urban district of Beijing

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With the development of urbanization, industrialization, population growth, and traffic growth, the environmental pollution has been more serious in the city. The statistic shows that one third of the population live in the city. The study of heavy metals' characters and migration in the city is of highly important and practical because of its toxicity and accumulation in organism. The dust in the urban area tend to form a repeated cycle of rising and sinking under the action of external forces, and develop into particles that are likely to be breathed by human bodies, thus causing great harm to human health and environment.

Dust has been collected and studied as the medium carrying heavy metal pollutants. The dust samples are collected within the 4th Ring Road and the composition, chemicals and granularity was tested. The dust in the urban area is mainly composed of quartz, plagioclase, dolomite, calcite, and hornblende, which account for 80 to 90 per cent of all the minerals. Besides, there is a small quantity of mica, microcline, sericited feldspar, carbonaceous granule, glass, etc. The content of K_2O and Na_2O is higher in the coarse grains than in the fine grains. The averages of content of 16 elements are all higher in the fine grain than in the coarse grain. The sequence of the heavy metals from most seriously contaminates to the slightly contaminates in the dust are cadmium, mercury, zinc, copper and arsenic.

References

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