

Distribution of mineralization by VHMS and SMS ore deposits composition as indicator the variability of their conditions of formation

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Introduction

In this paper mineral and geochemical characteristics of both some volcanic hosted massive sulfide(VHMS) of the South Urals Cu-Zn deposits and seafloor massive sulfide (SMS) of the North Atlantic segment of Middle Atlantic Ridge, their evaluation and comparison were analyzed.

Results and Discussion

As result of geochemical, mineralogical and isotopic-geochemical based on own and available from published researches it was determined that:

The distribution of mineralization by VNMS and SMS composition serves as one of the starting points for studying the variability of their conditions of formation.

It is possible to delineate the stages of mineralization with age using the statistical distributions and correlations of the most important chemical elements (Cu, Zn, Fe and S) in the geochemical types of different VHMS and SMS.

The statistical distribution of trace elements contents in different geochemical types is not homogeneous. For instance, there are two Co content intervals that reflect the bimodal Cu distribution and Fe content. The high cobalt contents may reflect the high-temperature of formation of the Cu-rich mineralization.

Conclusion

The distribution of minerals and geochemical elements within these modern and ancient massive sulfides deposits in nature can thus be best understood if their zonation is taken to be indicative of the evolution mineralization and the conditions of formation