GEOSPATIAL SUPPORT AND CONSTRUCTION METHODS FOR THE PROGRAM OF ANALYTICAL QUALITY CONTROL OF GEOLOGICAL EXPLORATION AT THE FIELD

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The purpose of this work is formation of a quality control program for geological exploration at the field and geological control of mineral resources evaluation. The study is based on modeling and interpretation of the content of the useful component and the lithology of the field. The contents were assessed by the ordinary kriging method. The substantiation of the upper and lower limits of the content of the useful component is carried out on the basis of laboratory research data using the methods of statistical analysis. Grade estimates were verified by statistical comparison of drilling data with visual grade grades based on modeling data. Relevant factors were taken into account that determine the degree of consistency of geological structures and the category of reserves of the field. The lithological features that determine the promising zones of mineralization have been established. Implemented data quality check procedures to monitor contamination, reliability and accuracy of analyzes. The procedure for determining the factors that negatively affect the consistency of grades and the parameters of geological characteristics has been implemented. The development and verification of the block model of the field was carried out and the comparison of the volume of the useful component of the block model with the volumes of the formed frames was carried out. As a result of the research carried out, the classification of reserves was carried out, taking into account the initial set of available data on the geological structures of the field, analytical sampling data and the content of the useful component.

Keywords: data quality control, sample preparation, block model of the field, consistency of geological structures, metal content limits, mineralization zones

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