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CONSTRUCTION OF MODELS OF ZLOBYTSKIY ILMENITE DEPOSIT ON THE STAGE OF GEOLOGICAL
AND INDUSTRIAL EVALUATION

The usage of geo-information systems can significantly speed up the process of processing and analysing the information obtained in a result of geological and industrial evaluation. Such systems can automate the processing and interpretation of data, and their usage can simulate the fields that allow optimum use of geological data. This can result in construction of geological sections in any location and get quality characteristics of the investigated area despite the heterogeneity of the content of ilmenite.

To form a three-dimensional model of Zlobytskiyilmenite deposits a modeling method for checking data exploration wells with the ability to refine results by spreading deposits geophysical studies (seismic, magnetic, electromagnetic, etc.) is used. In order to obtain the most complete information about the deposit 750 exploration holes were processed. According to the content of ilmenite in exploration lines we can conclude that there are significant fluctuations of this value across the width of mining works. Using the value of seam thickness and content of ilmenite in Zlobytskiy deposit, the concentration of ilmenite in any part of the exploration deposit can be determined.

These studies have shown a fairly large variability in the content of useful component in the areas that require information on the distribution of minerals in across the width of mining operations.

Having obtained a seam thickness and content of ilmenite in exploration wells and having determined the multiplication of these two values for each exploratory holes on the width of work, we obtain the number of reserves. Performing interpolation, we can determine the concentration of ilmenite per 1 m2 in any part of the deposit. This will allow to identify the areas with the highest and lowest concentrations of mineral, and thus ensure that the averaging parameter with the purpose of submitting of a required quality ore to the beneficiation plant.

Resultsoftheresearchmakeitpossibletoidentifythemostproductiveareasforextractionofilmenitesandsandmaximizetheusegeo logicaldata. Incombinationwith the exploitation system, geometrization of qualityindicatorsmakesitpossibletodeterminetheoptimalparametersoftechnologicaldevelopment of schemes of mining of titanium-containing ores.