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DISTRIBUTION OF THE CAREER FIELD ON EXPRESSION OF ROCKS

The arrangement of rock massifs by landing is a selection and graphic representation of the boundaries of the quarry fields. Nowadays, it is generally accepted that rock placement is determined by two main factors of their massif: first, fracturedness, and secondly, the physical and mechanical properties of rocks and their fragments, and above all, their durability. The most important factor is the first factor, namely fracture. Since the main factor determining the landing of rocks is the degree of fracture, then the procedure of zoning the quarry field on the landing must begin with a static assessment of the array and the development of local classification of the rocks of the field by blockage.

The classification, especially including its landing options, and the mapping of rocks should be periodically adjusted. The purpose of such an adjustment is to optimize the landing options and to more precisely divide them into categories of explosions. The latter is achieved by introducing intermediate classes for fracturing, and accordingly, the categories of landing.

Another method for determining the fracture of the array to control the quality of drilling and blasting work was the computer modeling of the block structure of the rock massif using the Surfer 8 program. The volume of the database of point patterns of the block structure was 545 models (points), each of them included the following characteristics of the block: orientation (azimuth and angle of incidence) of block-forming cracks, average block size, blocking category, block form, belonging to a particular engineering-geological lithotype.

Inquiries to the database of point models for a given plot or a whole career field software implemented spatial and probabilistic-statistical simulation of the block structure of the processed rock massif. The point models were formed on the basis of program implementation of the algorithms used for determining the following parameters of the block structure of the array: the average azimuth and the angle of cracks; average distance between cracks in each system; the average size of an elementary structural unit; categories of fracturing (blocking) of rocks; block form

Based on the results of the simulation described above, a database of point models of the block structure of a rock massif, block category, which allows implementing a spatial modeling of the block structure of the array within the entire career field, is formed.

It is used to construct in this case the technique of isolation due to the unsteady nature of the spatial change in the size of the block in an array of rocks.

To establish the law of the segment distribution of different sizes in the array, the processing of the results was conducted using the basic provisions of mathematical

statistics and probability theory. The whole array of data was broken down into classes through 0.2 m, the percentage of each class was calculated and a distribution was made using the Pearson criterion. According to the results of this verification, the theoretical curve was obtained and its analytical expression is a differential function of the distribution F (x), which allows determining the probability of its contents in the array according to a given size of the individual.

The method of computer modeling of the block structure of the rock massif made it possible to evaluate their landing, including a number of successive procedures: the formation of the primary database of field measurements of the parameters of the cracking of the array – the creation of a point pattern of the block structure for each observation station – the formation of the database of point models – spatial and probabilistic - the statistical modeling of the block structure of an arbitrarily specified area or quarry field and in general on request to the database of point models. Also, it was possible to determine, in accordance with the categories of rock placement and their fracture, to determine the optimal size of wells for improving the quality of drilling and blasting operations and the release of the required and quality raw materials.