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EXPERIENCE OF OPERATION OF MINING SURFACE MINERS THE DEVELOPMENT OF HALF-ROCKY ROCKS AND ROCKY ROCKS

The boundaries of iron ore open-pits are located close to settlements there is a need to mining rocks without the use of blasting to expand the contours of the surface of the open-pits. In iron ore open-pits is the possibility of effective use of non-blasting mining of the rock massif. Thus, non-blasting development allows you to remove more mineral reserves than when performing a mass explosion, by reducing the safe distance of open mining operations in residential areas.

One of the promising non-blasting technologies for the development of rocks is the progressive technology of surface mining of the rock massif when using mining.

Surface miners carry out surface mining of rocks providing a sufficient level of control over the size of pieces of light-mineral rocks with no output of the oversized fraction and thereby reduce the operating costs of mining and the load on mining equipment. Due to the non-blasting development of the rock massif by surface miners, there is no seismic effect of the blasting on the condition and stability of the pit walls and their elements as compared to the traditional technology when conducting a mass explosion.

Testing of the rock massif by mining harvesters is carried out by the platform, which is surface milled in succession by parallel passes along the length of the front of work according to the shuttle pattern of movement with a direct load of mineral rocks into the vehicle. For design features, the harvesters perform turns at the end of the passage to continue working out the next strip of rocks in the opposite direction or idling reverse with returning to the starting position of the next milling strip. When performing its immediate work of weakening the rock massif represented by a ledge, which the surface miner works and if necessary it can simultaneously form a transport

cross-over, this ensures the rationality of its operation in the development of iron ore deposits.

As a result of the rational use of open-pit milling machines in open-pit mining of mineral deposits, it requires solving a whole range of tasks, one related to their use in existing open-source technologies, so that they work as efficiently as possible in existing operating conditions without needing to make significant changes open source development for their implementation.

Non-blasting the development of half-rocky rocks and rocky rocks of mineral deposits is realized through the use of mining surface miners. Such high-performance mining equipment stands out against the background of other mechanical methods of preparing rocks for excavation and loading operations, due to its versatility in any working conditions due to its maneuverability, ease of maintenance, and control of the output of the fraction of pieces of the desired size of rocks, etc.

Installation and systematization of its operational parameters of the actual work is possible in the process of its work. One before interested in determining the dynamics of its performance, as well as fixing and processing the duration of all operations of the surface miner. The operations of the working cycle include: the average number of loaded dump trucks in one completed pass, the working depth of the mining of the rock massif, the volume of withdrawal of the rock massif per one working pass. Further can carry out the estimated performance of the surface miners and the number of loaded dump trucks in 1 hour.

As a result of analyzing the operating experience of the mining surface miners at mining enterprises, the following features of the use of non-blasting mining of mineral deposits can be identified: As a result of analyzing the operating experience of the surface mining miners at mining enterprises, the following features of the use of non-blasting mining of mineral deposits can be identified:

when using milling type mining combines in the development of mineral deposits in the technology of opencast development, it becomes possible to combine the basic operations of two technological processes into one, in which the rocks are prepared for excavation, their actual extraction and load;

the use of surface mining ensures the uniformity of the grain-size yield of the granulated rock of the desired size of the pieces, as well as the absence of the output of oversize;

the working site is the slaughter of a miner it easily adapts to the development of previously created elements of the mineral resource development system;

the disadvantages of using surface miners harvesters is the low productivity of performing mining at the initial stage of commissioning, since it is limited to the required dimensions of the elements of the development system, but later on the productivity is normalized to the desired value/

It is important to complete a techno-economic analysis of the technology of surface mining of the rock massif by mining combines, taking into account the coefficient of strength of rocks on the scale of M.M. Protodyakonov.

So, the analysis of the operating experience of open-pit surface mining harvesters in various conditions of the development of mineral deposits allows us to establish a new fundamental possibility of the technology of surface mining of rocks of iron ore deposits. It is also important to determine the rational regimes of surface mining by mining combines, in order to ensure the greatest efficiency in the maintenance of the no-fly technology of the development of rocks of iron ore open-pits.

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INFLUENCE OF LOSSES OF BALANCE-INDUSTRIAL SUPPLIES AND OBSTRUCTION OF CONTENT OF QUALITY INDEXES OF MINERALS IS IN IRON-ORE MASS ON THE PROCESS OF AVERAGING OUT

Forming each of single streams of iron-ore mass it takes place under act of losses of balance-industrial supplies and obstruction of content of quality indexes of minerals in the stream of iron-ore mass.