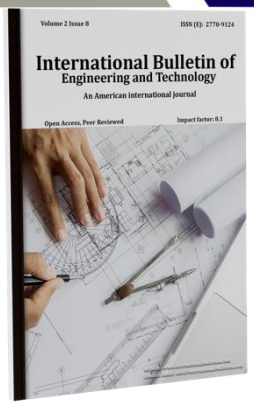

BALANCE AND GEOLOGICAL RESERVES OF THE MINE IN OPEN PIT MINING

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Abstract: This article provides information on determining the balance reserve amount and geological reserve of the mine in the system of open pit mining. Taking into account the technical parameters of mining and loading processes in mining enterprises, it is possible to determine off-balance performance indicators. It directly depends on the types of transport used by mining enterprises. When designing mines and drawing the technical scheme of the mine, the amount indicated in the technical passport of the mine, the geological reserve of the mine is indicated. When calculating the balance reserve of a mineral mined in mining enterprises, it is characterized by the mineralogical, chemical and mineralogical composition of the mineral and other indicators. Sometimes the composition of harmful components is also determined. Each mineral has its own type and grade, there are industrial requirements. The basis of these requirements are the conditions of their use and processing. The fulfillment of these requirements is guaranteed during technical and economic processing of product quality. Extraction from a given mineral will increase the cost of processing it. This, in turn, leads to a decrease in efficiency. The final efficiency of the mining industry is achieved in the process of processing the geological reserve of minerals in enrichment plants.

Keywords: Open pit mining, balance reserve of the mine, geological reserve, mining efficiency, scheme of the mine, mining parameters.

Introduction

Reserves identified in the mining area all are called geological reserves. It depends on the importance of the economy geological reserves are divided into two groups, separately calculated on and off balance sheet reserves. Balance reserves are those that meet industry conditions, ie a reserve that is considered economically viable to extract. Off-balance sheet reserves, the amount of useful compounds in it little, the thickness of the ore body is small, the conditions of their mining complex, not mined now, but in the future should be considered as an object that can be used in industry. Balance and off-balance sheet reserves of ore condition is limited by the amount. This condition applies to each individual mine or for a group of mines with similar geological and economic conditions determined by the relevant state body. The condition, among other indicators, is useful in ore composition the component implies a minimum industrial amount, ie is the lower limit of useful compounds, and the amount is below it economic extraction and processing of components ineffective (useless). Measurement of the minimum industrial quantity is separate for each mine is identified because it is famous for mining and processing ore the amount of money spent, which in turn depends on the nature of the mine and depending on geographical conditions. Determining the situation is a complicated matter, and rightly so highly qualified geologists, miners, ore to determine the solution with the participation of well-wishers, metallurgists, economists should be solved together. Industrial reserve to be allocated to balance reserve and mining

until the amount of ore specified in the project is exhausted includes stocks that are not planned to be taken (for example, protection ores left in bodies). Part of the ore in the process of mining the industrial reserve if lost, this loss is called an operating loss. In addition to ore, waste rock is also used in mineral extraction is mined. A part of the mine is sorted and separated from the ore is brought to the surface, another part is in the process of mining mixed with ore. With the release of ore to the surface mixed rocks are called ore mass. Ore and Puch rock "ore mass" and puch, the part that has been separately brought to the surface and the stone is called mine stone. Solid mineral reserves were explored and studied Depending on the level of completion, it is divided into categories A, B, Cj and C2. Prediction of pre-assessed C2 category solid minerals Pi depending on the level of the resource base; P2 and P3 divided into categories. Category A - reserve studied; their bodies specified; the natural location and shape of the mineral identified; of the surrounding rocks within the mineral origin separated; types of natural minerals identified; internal structure and natural location of the mineral conditions are set; types of minerals useful for industry separated and identified; the origin of the mineral is determined and determined using adhesives. Category V - reserves are explored and fully explored; main features, location, shape and the nature of the structure of the mineral is determined; mineral raw materials varieties of industrial importance, natural species and their distribution patterns defined. Between the mineral body and it the condition is less than the amount specified in the regulatory document the type of mine where the boundaries of the plots are not clear; mineral The main technological features and natural factors of the mine are determined the basic conditions of the activity are determined. Useful the limit of the mineral reserve was obtained during exploration determined on the basis of data. Category Ci - reserves have been studied; mineral size and shape are indicated; mineral technology sufficient to judge the feature as suitable for industry studied; The origin of the mineral is determined and with the help of solders specified; the regularity of their distribution is determined; useful There are many fossil bodies, ores and plots with low conditions limited by an uncertain boundary; basic technological additional determination of characteristics and other factors, quality is required is done. Limits of mineral reserves are exploration data determined based on Category C2 - reserves are calculated in advance; mineral lying conditions, form and distribution range, natural type, geological and determined on the basis of geophysical data; from mineral characteristics are determined in laboratory conditions; minerals obtaining certain points relative to similar mine sites identified; path to mineral based on geological data it is determined that it can be opened; mineral quality comes first sample (probe) and mixture based on data from the mine determined by. Construction of a new mining enterprise or operation of an existing mine (excavation receiving enterprise) is useful for drawing up a project of reconstruction works. Mineral reserves by the State Reserve Commission allowed only when having a proven balance reserve, in which case and the reserve ratio for categories A, V and C is known and managed, Cover and bedrock is also mined. Minerals and mine covering and containing the rocks combined with the concept of mass. Stones are useful division into fossil and cover rocks is a relative concept. With the development of mining and processing techniques many cover rocks are used as minerals started and their number is increasing year by year. In the mining of different rocks and different minerals. is made in the ground for the purpose of digging a hole the sum of the works is called open pit mining. On a large scale open pit mining is an integral part of mineral extraction depends. In this case, the mineral wealth lying

underground all operations and processes related to mining. open pit through objects. And in underground mines specially equipped underground facilities for mineral resources Open pit mining mining is divided into two parts:

-excavation works (excavation, transportation and placement of cover rocks the work);

- mining works (excavation, transportation of useful minerals. pick-up and drop-off operations).

"Excavation is an empty mountain covered with mineral" consists of removing stones. As a result of opening and digging a career is created. Quarry - open mining of mineral deposits mining enterprise.. An opener for production fundamentals and purposes and a separate mine preparation that joins preparatory solders works are performed (main trench and semi-trench. cutting trench and half a thousand m of ditches and other mining open pits). K. in preparation The purpose of the work is that. to these excavations transport to the mine front paves the way to admit the coming. Open pit mining includes:

- preparation of the mine and its separate sections (mainly preparation of the upper part);
- strength of the massif of mined rocks taking into account mine protection and facilities in the provision works (maintenance of water balance. self-excavation of rocks prevention of burning and deformation of the surface restoration work, etc.).

The term "mining technology" usually means technical methods and means of organizing production work is a set of knowledge about. Given the power of technical tools, fundamental are mined by methods based on the laws of knowledge and organized on the basis of mechanized reception, to each other mining of mines to the sum of the processes of mining operations related to called technology.

There are two open pit mining processes aspect includes:

- production processes (rock mining, transportation mastering);
- open pit mining processes (quarry as a complex of mine solders). mine construction and development by environment and time).

Production processes include: the main production processes, tools, principles of mechanization complexes and organizational schemes; digging stones

prepare to receive. excavation-loading works, transportation. expropriation and mining release the mass. Open pit mining processes quarry parameters. Mines transition methods. opening a mining development scheme in the quarry production systems management methods and methods, product quality methods and tools, planning and organization of mining operations looks at the principles. Certain tasks must be done in a certain order. At the edge of the career or an open one that is orderly and sequential in its plot Mining is called a mining system. Adopted excavation system must provide the following:

- safety during work; their planning and economic efficiency;
- planned production capacity of the quarry;
- full utilization of reserves;
- comprehensive use of all minerals;
- mining reserve and environmental protection.

For long-term use of mining materials (trench and underground solders). for transportation of cover rocks, mineral resources delivery to reception points located above ground. materials from the top of the earth to the working horizon. provide transportation of equipment and people that is, quarrying and zabov worked from the upper part of the earth Opening the mine to ensure traffic to Jovi is called a system.

Conclusion

In the technical balance of the mine, it is desirable to create a mining technical passport with a large capacity and productivity for the use of machines and equipment. In the production of balance in mining, the size of the open mine (large areas, large long steps, etc.) should be large in the production of reserve mining. The productivity of the excavator, which uses the geological reserve in the quarry, allows to load up to 5 million tons of stone per year. high-quality accurate organization of personnel and production needs. An off-balance sheet rock reserve can be calculated from a layer where the mineral deposits are not too deep below the ground surface for open pit mining. The following conditions are taken into account when switching to a real mineral reserve or underground method, which is used when the economic efficiency of the mine is higher than open pit mining. Production safety is achieved through: treatment of surface and underground water. In many cases, in the mine mass, in the calculation of the geological reserve of the mine, when overloading the drilling wells with the help of excavators, when there is a fire on the site (coal in the mine), when the diesel engines of the mine are working, the increase of dust and gas in the atmosphere, quarry loads indicators of working machines are used.

References:

1. Джаксымуратов, К. М., et al. "ИСПОЛЬЗОВАНИЕ ПРЕСНЫХ ПОДЗЕМНЫХ ВОД МЕСТОРОЖДЕНИЯ КЕГЕЙЛИ." Экономика и социум 12-1 (91) (2021): 975-980.

2. Jumabayeva, G., B. Allanazarov, and A. Joldasbayeva. "STAGES OF OPEN PIT MINING. MINING METHODS AND THEIR PROCESSES." Science and innovation 2.A1 (2023): 236-240.

3. Allanazarov, Bayrambay. "GEODETIC DIMENSIONING STUDIES AND POINT-DIMENSION LOCATION COORDINATE SCHEME CREATION PROCESSES." Евразийский журнал академических исследований 3.4 Part 2 (2023): 21-25.

4. Yeshmuratova, A., et al. "MINE BLASTING PROCESSES OPTIMIZATION STAGES OF DIGITAL TECHNOLOGY OF DETONATORS." Scienceweb academic papers collection.–2023 (2023).

5. Yeshmuratova, A., and N. Amanbaev. "Ensuring Computer Data and Management System Security." International Bulletin of Applied Science and Technology 3.4 (2023): 282-287.

6. Yeshmuratova, Amangul. "TECHNOLOGICAL METHODS OF ENSURING INFORMATION SECURITY IN TECHNICAL SYSTEMS." Евразийский журнал академических исследований 3.4 (2023): 188-192.

7. Ермекбаев, Умиджон, et al. "НАБЛЮДЕНИЕ ЗА ДЕФОРМАЦИЯМИ БОРТОВ, ОТКОСОВ УСТУПОВ И ОТВАЛОВ НА КАРЬЕРАХ И РАЗРАБОТКЕ МЕРОПРИЯТИЙ ПО ОБЕСПЕЧЕНИЮ ИХ УСТОЙЧИВОСТИ: https://doi. org/10.5281/zenodo. 11222640." International scientific and practical conference. Vol. 1. No. 2. 2024.

8. Суйунов, Аброр Салохиддинович, and Учкунжон Мардонович Мирзаев. "ОСОБЕННОСТИ ВЛИЯНИЕ НА ОКРУЖАЮЩУЮ СРЕДУ ОТКРЫТЫХ ГОРНЫХ РАБОТ FEATURES ENVIRONMENTAL IMPACT OF OPEN-PIT MINING." Scientific Impulse 1.8 (2023): 9-12.

9. Karamatdin, Djaksymuratov, and Dzhumanazarova AltynguKurbaniyazova Baxitgul. "Changes in the regime and use of fresh groundwater in the Southern Aral Sea region." Solid State Technology 63.6 (2020): 15884-15887.

10. Джуманазарова, Алтынгуль Тенгеловна, Шаригуль Балтамуратовна Толепова, and Рано Максетовна Жуматова. "ПРОБЛЕМЫ КАЧЕСТВА ОРОСИТЕЛЬНЫХ ВОД." Science and innovation 1.D3 (2022): 263-267.
11. Джуманазарова, А. Т., А. С. Генжемуратов, and Данияр Калбаевич Жумамуратов. "Изменение режима и использование пресных подземных вод Южного Приаралья." СЕЛЕКЦИЯ, СЕМЕНОВОДСТВО, ТЕХНОЛОГИЯ ВОЗДЕЛЫВАНИЯ И ПЕРЕРАБОТКА СЕЛЬСКОХОЗЯЙСТВЕННЫХ КУЛЬТУР (2021): 249-253.
12. Джуманазарова, Алтынгуль, Абдикадир Генжемуратов, and Рано Жуматова. "Засоление почв в низовьях Амударьи-основная проблема орошаемого земледелия." Евразийский журнал академических исследований 3.6 Part 3 (2023): 163-168.
13. Matjanov, Aman. "SCIENTIFIC RESEARCH OF THE LIFESTYLE OF THE PEOPLE EVACUATED IN KARAKALPAKSTAN." Modern Science and Research 2.10 (2023): 771-775.
14. Aman, Matjanov. "Traditional Transport among the Peoples of the Aral Region (1800-1873)." Res Militaris 13.1 (2023): 2985-2988.
15. Матжанов, Аман Жарылкапович. "Транспортные проблемы Каракалпакстана в 1920-1930 годы." Бюллетень науки и практики 7.6 (2021): 509-517.
16. Мислибаев, Илхом Туйчибаевич, et al. "Уменьшение пылегазового загрязнения атмосферы при производстве массовых взрывов на карьерах." Известия вузов. Горный журнал 2 (2017): 39-43.
17. Заиров, Шерзод Шарипович, and Муборак Жабборовна Норматова. "Разработка конструкции и параметров скважинных зарядов взрывчатых веществ при контурном взрывании для получения устойчивых откосов уступов." Ãîðíûé æóðíàë (2017): 102868.
18. Заиров, Ш. Ш., М. Ж. Норматова, and З. С. Шарипов. "Расчет параметров пылегазового загрязнения атмосферы при производстве массовых взрывов на карьерах." Горный вестник Узбекистана 1 (2017): 33-35.
19. Заиров, Ш. Ш., et al. "Исследование влияния забойки скважинного заряда на эффективность разрушения и пылеподавления." ТОШКЕНТ-2021 (2016): 59.
20. Саидова, Л. Ш., М. Норматова, and М. Равшанова. "АНАЛИЗ УПРАВЛЕНИЯ ТРАНСПОРТНЫМИ ПОТОКАМИ В РАЗЛИЧНЫХ ГОРНО-ГЕОЛОГИЧЕСКИХ УСЛОВИЯХ." ЁШ ОЛИМЛАР АХБОРОТНОМАСИ.