IMPROVING THE LONG-TERM PERFORMANCE OF CONVEYOR BELTS AT THE ANGREN INCISION.

Abdusalomov Fozilbek Farhodjonovich

The master's deggree of 13-20 group

Tashkent State Technical University

fozilbekabdusalomov70@gmail.com

Anotation.

This research article is devoted to the analysis to discover efficient methods of improving the long term performance of conveyor belts in the open pit mines as the incision in Angren. A set of mining operations performed directly on the surface for the extraction of minerals is called open pit mining.

Key words: open pit mining, drilling, conveyor belts, Angren incision.

Introduction.

The history of open pit mining goes back a long way. This is because in ancient times, people dug mines by hand or near the earth. As mining progressed, it was possible to extract the ore by first removing the overburden and then extracting the mineral. Doing this work required a great deal of labor and expense. As a result, open pit mining has been suspended for a long time. It was not until the end of the 19th century that mining began to recover on the basis of mechanization. Since then, especially in the middle of the twentieth century, open-cast mining has continued to expand around the world. For example, in 1950, 11% of the coal mined was open pit, but by 1980 it had risen to 38%, and in Uzbekistan it was 80%. During this period, the share of open pit mining increased from 44% to 80-85%.

Open pit mining in our country began in 1947, and now most of the minerals extracted from coal and metal deposits (85-90%), all deposits of natural building materials (100%) are mined opencast. Such a rapid development of open pit mining

in a short period of time, firstly, the lack of opportunities to mechanize production processes in open pit mines with high-efficiency mining and transport equipment (large geometric dimensions of the quarry), secondly, The advantages of open pit mining over the underground method are as follows:

1) high level of complex mechanization and automation of mining operations compared to the underground method;

2) labor productivity is 3-5 times higher than the underground method;

3) low specific capital expenditure (one unit of annual production capacity - Dog or the amount of capital expenditure per 1 m3);

4) the cost of open pit mining is 2-4 times cheaper than the cost of underground mining and the level of profitability is high;

5) good enrichment of relatively safe and hygienic conditions of open pit mining.

Discussion.

Dependence of mining operations, at least in part, on weather conditions and the withdrawal of large areas of agricultural turnover, as well as the disturbance of the groundwater balance and the negative impact on the environment compared to the underground method of open pit mining the greater impact is the disadvantages of open pit mining. Currently, quarries with a depth of 500-700 m and more are planned to be built.

The height of the steps can be increased from 10 to 12 m to 40 m. Due to the widespread use of non-transport and transport-overturned technological schemes, the intensity of open pit mining is increasing, and the annual rate of quarry deepening is 15-20 m. This, in turn, ensures that your career has a high annual production capacity.

Further open pit mining development will be based on the following directions:

- increase the production capacity of existing and new quarries by 10-20 min and more. increase to a ton;

- extensive use of non-continuous flow complexes (including rotor excavator complexes) in the extraction of soft and loose rocks;

- Expanding the technology of excavation of cover rocks with draglines with a bucket capacity of 40-100 m3 and an arrow length of 100-150 m, and placement on excavated grains (internal dumps);

- Extensive use of "cycle-flow" technology, based on the transportation of crushed ore in the quarry by self-propelled mills and the transport of crushed ore mass on conveyors;

- Wide introduction of new models of mining and transport equipment: drilling rigs SVSh-320, SVSh-400, EVG-20, EKG-20, EKG-15 electric drives, EG-15, EG-20 hydraulic excavators, cho Extensive use of new equipment with a capacity of 25 m3, loaders with a carrying capacity of 110 - 180 - 250 t and other high-efficiency equipment;

- full mechanization of road construction and other ancillary works;

- The use of automated control systems and the widespread use of mathematical methods and computers in the design of activities to be implemented in quarries.

The application of the above-mentioned technical directions in production will increase the efficiency of open pit mining. In a market economy, a quarry is an independent production unit (mining enterprise) that operates on a full-time basis. In this case, the costs of mining are covered by the income received by the quarry (income from the sale of minerals). Under these conditions, the production activity of kaiyeming is evaluated by two indicators of profitability and profitability.

The level of profitability and the range of oscillations of the quarry operating in our country is large, averaging 5-20%. In essence, profitability is an indicator of the

profitability of your career, which serves as a criterion for managing and evaluating efficiency.

Open pit mining will consist of four stages.

The first stage is the preparation phase of the mining section, which will allow to carry out the work to be carried out in the following stages safely and with high productivity. During this period, the mining surface will be prepared for quarry construction. This includes dewatering the field, cutting down trees and uprooting them if there are trees on the ground, relocating water bodies and riverbeds, relocating roads, power lines outside the quarry area, buildings such as removing the printer.

The second stage is the quarry construction phase, in which work fronts are built to ensure the safe extraction of minerals and cover rock as planned. The main works to be carried out during this period will be the laying of special slabs connecting the earth's surface with the excavation horizons, the removal of a certain amount of ore from the quarry area, the construction of transport communications, and others. The work performed in the first and second stages of open pit mining is called capital work, and the costs incurred in them are called capital expenditures.

The third stage of the quarry is the exploitation period, in which mining operations are divided into two types: mining (opening) of the overburden and mining of the discovered mineral. The open pit will continuously excavate the rocks that cover the deposit, creating the work front needed to extract the mineral directly.

The fourth stage is the end of the quarry, which involves the reclamation of land disturbed during the mining process.

The above-mentioned works will be carried out one after another in the initial stages of development of the field, and then in parallel. But with good credit, you might find exactly what you need. For example, preparatory work is carried out before

capital work, and opening work is carried out before mining. The main activities in open pit mining are mining capital, discovery and mining. Preparation of ore for excavation, loading, transportation, dumping and storage of mined minerals are the main processes of open pit mining.

Preparation of a deposit for excavation is the process of separating the bedrock or mineral from the massif in different ways. Preparation of quarries for excavation can be carried out by mechanical, hydraulic, mechanical-hydraulic and blasting methods. The practice of open-pit mining is widely used in the preparation of the massif for excavation. This is because in most deposits, the bedrock and mineral deposits are composed of hard, rocky, and semi-rocky rocks. The method chosen to prepare the rock for excavation should provide a predetermined size of the rock fragments in the crushed mass.

Results and conclusion.

Excavation in the quarries is carried out by loading the ore mass directly from the massif or a pile of crushed rock and loading it on vehicles with a single loading machine (excavator or loader). and to ensure the safe and high-efficiency operation of quarry mining and transport equipment, as well as the uninterrupted supply of minerals to the quarry area and outside receiving points. outside) to the fields, and the placement of minerals in warehouses, which should ensure the safe operation of the overturned machinery with high efficiency.

All of the open pit mining processes discussed above are interconnected and are part of a continuous technological complex of open pit mining.

In some cases, some parts of the technological complex may not be present. For example, in the case of soft rock mining, the preparation of the massif for excavation, and in the case of non-transport mining, the process of transporting the rock is not painted.

Table[1] below shows the specific costs of open pit mining:

Rocks	Percentage of process costs, %%				
	Drilling and blasting works.	Excavation works.	The cost of using mining roads.	Rock transport works.	Create a roll.
Soft	0	18-20	12-16	40-50	18-22
Medium hard	13-18	16-23	10-12	38-45	15-18
Hard	18-28	20-25	8-10	35-40	6-15

The table shows that the highest cost of open pit mining is the transportation of ore.

References:

1. Ochiq kon ishlari texnologivasi va kompleks mexanizatsiyalash: 0 ‘zbekiston Respublikasi Oliy va o‘rta maxsus ta'lim vazirligi. Toshkent: «KAMALAK PRESS», 2015- 296-b
2. Мальгин О.Н., Ситенков В.Н., Шеметов П.А. Цикличнопоточная технология в глубоких карьерах. Ташкент, изд. «ФАН» 2004.
3. Ялтанец И.М., Шадов М.И. Практикум по открытым горным работам: Учебное пособие. Изд. МГГУ 2002.
4. http//www.rusmet.ru/minjornal/ - «Торный журнал».
5. https://docplayer.gr/108478976-Kon-mashinalari-va-majmualari.html
6. https://mar-well.livejournal.com/110299.html

[1] Professor V.S. Xoxryakov's specific costs for open pit mining.