

Metal Mine Tailings Analysis and Countermeasures

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Abstract: This paper takes the comprehensive utilization of tailing in metal mine as the research object. On this basis, the corresponding countermeasures are put forward: in terms of comprehensive utilization rate, adopt a variety of ways to improve the comprehensive utilization rate of metal mine tailings; In terms of the government, we should increase the financial investment in the tailings of metal mines, improve the construction of laws and regulations, and strengthen the role of policy guidance. In the aspect of resource consciousness, we should change people's idea, strengthen the propaganda and education of tailing utilization, improve people's comprehensive utilization consciousness of metal mine tailing, and implement the important task of protecting ecological environment.

Keywords: Metal mine tailings; Comprehensive utilization status; Countermeasures

1. Introduction

In our daily life, we should pay attention to comprehensive utilization and adopt new methods and technical means to improve the comprehensive utilization rate of metal tailings. With the development of technology, we can use cover method, chemical method and vegetation method to deal with it.

2. Improve the Comprehensive Utilization Rate of Metal Mine Tailings

Covering method is to cover the surface of tailings with large or coarse materials, which has a very significant effect and can avoid dust pollution to the environment and harm to human health. This method is adopted in baiyinnuer lead and zinc mine of bailin zuoqi in Inner Mongolia and the local ecological environment is very good.

Chemical method is simply to treat the tailings with chemical drugs, waste rock, tailings, smelting slag impregnated water also contains toxic and harmful components, if not treated and direct discharge will lead to water and ecological pollution. It has to be neutralized with chemicals. It can avoid polluting water and prevent dust from flying.

Vegetation method is to carry out plant planting and tailings treatment. For tailings treatment, plants can be planted on it. The reinforcement of tailings dam is carried out by using the soil fixation of plants. And the use of plants is very outstanding, tailings management, not only achieved significant economic benefits, and in the society has been a model to take the lead. It can not only prevent the harmful components of tailings from unnecessary damage to plants, but also reduce the

evaporation of water and help seeds to take root and germinate. Tailings can also be used for pit filling, paving and field covering. For example, copper, lead, zinc, nickel, manganese, apatite, malachite, barite and other useful components can be selected from copper tailings for human use. Baiyun obo adopted vegetation method to treat its tailings.

Synthesis is the synthesis of the first several methods. It can also be used as building materials, brick making, glass glass-ceramics and decorative surface. There's a lot of stuff coming out of metal mine tailings, and a lot of useful stuff. But there must be harmful substances and beneficial substances, which can be developed to better serve people's lives. According to the proportion of mineral composition and chemical composition, it can be known that the building materials are mostly quartz, and the particles inside are very fine, which can be used as cement fertilizer and other materials, and the quartz sand tailings are mainly used to make bricks and other USES. Making full use of the useful substances in the tailings can reduce the pollution of the tailings and the pressure on the environment. From more than ten years ago, China began to make glass microcrystalline and decorative surface for the reuse of tailings, this method is suitable for the development of high strength environment, the production of things not only compressive resistance but also wear resistance, double-layer glass is made of this method. Metal mine tailings can be used as soil improver and trace element fertilizer. Tailings contain a variety of elements, some essential key elements of plants, plant photosynthesis, plant growth needs a lot of elements to maintain, these basic elements can be extracted from the tailings; If the soil is acidic, use alkaline elements to maintain it. This extract from the tailings is actually fertilizer, which is very use-

ful for improving crops. Beneficial to the increase of food production is also beneficial to the supplement of trace elements in people's bodies.

The disposal of tailings is not so easy, we need to be careful. Backfilling is one of the direct methods to use mine tailings in goaf. Backfilling is a reasonable and effective method for mine. Because of the tailings for the environment pollution is very serious, we need to find one of the most reasonable method to solve not only got the maximum utilization of resources, but also don't cover, farmland, and for some state-owned enterprises and private enterprises can reduce their economic pressure, ease for the management of the tailings fatigue, and can contribute to the nation, establish a good image; And this method can be used in any terrain, very convenient. The comprehensive utilization of metal mine tailings can be referred to the comprehensive tailings recycling project of aohan qijintao company in China.

3. Strengthen Government Intervention and Improve the Establishment of Relevant Systems

As the utilization of metal mine tailings is a long-term work, the government should strengthen the policy support and guidance, constantly improve the legal system, and bring the utilization of tailings into the national and industrial development planning. And deployment of systematic survey in the country to find out the number of existing metal mine tailings and comprehensive utilization. For example, investigate tailings reservoir design capacity, existing storage capacity, annual emissions, accumulation history, material sources, etc., take the tailings reservoir as a deposit for formal exploration, submit reserves, and conduct comprehensive analysis and testing of multi-component tailings, and strive to establish the national tailings dynamic database. At the same time, we should combine relevant foreign policies and measures with China's national conditions to provide corresponding economic aid and other measures. For example, the establishment of tailings comprehensive utilization of special funds, tailings mining corresponding subsidies, to provide economic pillars for researchers.

In addition, in order to solve the problem of national metal mine tailings, it is necessary to promote the comprehensive utilization of tailings resources through relevant laws and regulations. As early as 1986, China adopted the mineral resources law, which has played a positive role in the rational development and effective protection of mineral resources. In the new era, mandatory and encouraging laws and regulations should be formulated as soon as possible to bring the comprehensive utilization of China's metal mine tailings into the legal system, which can effectively solve the serious

waste of resources, low comprehensive utilization rate and environmental pollution and other related problems.

4. Change Concepts and Enhance People's Awareness of Resources and Environment

Mineral resources are non-renewable resources, which have been gradually exhausted in the cumulative exploitation, but the tailings produced in the production of mines contain a large number of valuable metal and non-metallic mineral resources. Comprehensive utilization of these resources can effectively reduce environmental pollution, save resources and contribute to the development of enterprises. Mining enterprises should make preparations for protracted war, turn waste into treasure through scientific methods, and gradually improve the comprehensive utilization rate of mine tailings.

Weak consciousness of people's consciousness of resources and environment in China, the illegal mines is more and more serious phenomenon, by means of education, the school of the metal mine tailings utilization and social knowledge, make this kind of idea into everyone's action, intensify propaganda and ensure that everyone understand the situation of our resources, deepen the comprehensive utilization of resources, environmental protection, strengthen the consciousness of rational utilization of mineral resources. At the same time, strengthen management work, for the metal mine tailings to be discharged into the environment to carry out a strict review, to do not pollute the ecological environment as the standard, we must ensure that the tailings to be discharged in line with the corresponding national emission standards. Only in this way can we respond to President xi's call for "both gold and silver mountains and clear waters and green mountains" in a real sense.

To sum up, only by adopting the above measures and implementing green management can the comprehensive utilization of metal mine tailings give full play to its best advantages, and at the same time is conducive to the protection of ecological system and the circular development of economy.

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