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REPUBLIC OF KARAKALPAKSTAN TEBINBULAK TITANIUM-MAGNETITE ORE DEPOSIT AND GEOGRAPHICAL FOUNDATIONS OF ITS USE

***Abstract*:** Natural resources are a source necessary for human life and economic activity, satisfying various human needs. Man receives the necessary food, clothing, fuel, industrial raw materials, and construction materials from nature. All material resources that people derive from nature, such as underground resources, water, air, plants, wildlife, and others, are considered natural resources.

Keywords: resource, natural mineral wealth, iron ore, nature management, environmental protection.

Introduction

With the independence of the Republic of Uzbekistan, the geological study of the territory has become a requirement of the times. Studying the potential of natural resources and the level of their rational use at the level of economic sectors is of great importance.

The study of the natural conditions and natural resources of the Republic of Uzbekistan serves the future of our Motherland. The following scientists have conducted scientific research on the study of natural resources: Z. Akramov, A. Rafikov, A. Saliev, Kh. Vakhobov, P. Baratov, P. Gulyamov, and I. Khasanov.

At the same time, the worsening environmental situation in Central Asia has a significant impact on the health and living conditions of the population living there. Improving the ecological situation is directly linked to environmental protection issues in Uzbekistan. Therefore, the main goal of this science is to study and develop the main scientific and methodological aspects of natural conditions and the rational use of natural resources in Uzbekistan.

- To reveal the natural conditions and features of the location and distribution of natural resources of Karakalpakstan;
- Studying the history of the development of knowledge about the use and protection of nature in Karakalpakstan;

Main section

Several iron and titanium deposits have been discovered on the territory of the republic. The formation of these is also associated with volcanic processes that occurred during the geological civilization of the region, as well as the deposition of sedimentary rocks and hydrothermal processes. Relation of the volcano to processes One of the iron ores is located in the territory of Karakalpakstan. The Hissar Range includes the Kazgon Mountains, Surenata, Shabrez, Mingbulak, Chimgan, and others located in the eastern part of Uzbekistan. Black metals associated with sedimentary rocks have been found in the Aral Sea region, the Kyzylkum, Sultan Uvays, and other locations.

Manganese deposits formed as a result of volcanic deposits and hydrothermal processes were discovered in the Zarafshan, Zirabulak, Karatepa, and other mountains. However, the blood they found is not large. Chromium deposits associated with volcanic processes have been found in the Tamdy-Tag and Sultan-Vays ranges.

In the Karakalpakstan region, erosional tectonic mountains consisting of Paleozoic and Mesozoic rocks include the Sultan Uvays Mountains, Beltov, Kuskhanatov, Kubatov, Jumirtov, Kirontov, Porlitov, and small hills. They are rich in various minerals, including the Tebinbulak titanium-magnetite ore deposit in the Sultan-Vays Mountains. The Tebinbulak titanium-magnetite deposit is the largest magmatic ore deposit in the Republic of Uzbekistan. It is located in the northern part of Mount Sultan Vays in the intrusive area of the same name. The area of the deposit is approximately 8 km2. The Tebinbulak deposit is composed of siliceous (stony) schists and stratified limestones located within the gabbro-pyroxenite zone within the synclinal fold. It is composed of superbasic rocks: pyroxenite, tebinite, hornbledite, and periodite.

In terms of petrological, petrochemical, and mineralogical-geochemical characteristics, the Tebinbulak deposit is very close to the Kashkadarya and Gusevogor (Russia) deposits. In addition, it has common features with dunite-pyroxenite-gabbro masses. This type of ore is currently widely used in heavy industry.

The Tebinbulak ore deposit contains 17–19% iron, 2% titanium, and 0.5% vanadium, and its reserves are estimated at 3.5 billion tons.

Figure 1. View from Sultan Uvays Mountain Fig. 2. Titanium-magnetite appearance

Currently, metal products in our country are mainly produced by re-smelting scrap metal. In this regard, the head of our state has recently increased attention to the Tebinbulak deposit in the Sultan Uvays mountain, which is promising and rich in very important iron ore. Regarding an important issue, the President of the Republic of Uzbekistan, Sh.M. Mirziyoyev, issued Resolution No. PP-3473 dated January 12, 2018, "On organizing work for the implementation of the investment project 'Construction of a mining and metallurgical complex based on the Tebinbulak deposit'" [1]. The content of the resolution provides for the creation of its own metallurgical complex by creating a modern steelmaking enterprise based on the Tebinbulak titanium-magnetite ore deposit using local raw materials, as well as increasing export volumes and reducing imports. Also, the use of domain-free technology in the production of cast iron and steel in the project has great potential.

Due to the intensification of production in our country, the relationship between man and nature is becoming more complex, and the scale of ecological and socio-ecological consequences is increasing.

- Preventing environmental pollution in the territory of Karakalpakstan, achieving a radical improvement in the state of the environment in the worst zones of the ecological process and cities, ensuring a reduction in the amount extremely dangerous to public health to an acceptable level;

- transition to waste-free integrated production by using natural resources at all levels, introducing low-waste industrial technologies;

- achieving the replacement of old equipment with new modern ones in order to save raw materials at enterprises and their integrated use;

- placement based on the rules of protecting the dignity of productive forces;

- creating a unified automated structure for monitoring the state and pollution of the natural environment under environmental control;

- achieving the preservation of the natural characteristics and diversity of all types of natural elements;

- accounting for natural monuments and achieving their preservation in their original form;

- strengthening education and upbringing aimed at environmental protection among the population, especially in kindergartens, secondary and higher educational institutions;

- in-depth study of the negative consequences of environmental pollution, especially its impact on human health, and prompt development of measures for its prevention;

- imposing fines on enterprises, external associations, associations, farms, and other external entities for the inefficient use of natural resources, even if the release of pollutants into nature has exceeded the permissible level. Conversely, implementing a procedure to incentivize enterprises and third parties that comply with environmental legislation.

- to strengthen constant propaganda work on radio, the world, newspapers and newspapers in order to inform and involve the general public in nature conservation work.

Conclusion. Developing production through the efficient and effective use of metallic mineral resources in the Sultan-Vois mountain, located on the territory of the Republic of Karakalpakstan, plays an important role. Undoubtedly, if the extraction of metallic minerals is carried out based on advanced industrial technologies, it will not only meet the country's needs for metal products but also create opportunities for export. The political and economic transformations being carried out in our country are not only strengthening the position of the Republic of Uzbekistan, including the Republic of Karakalpakstan, on the world stage in the near future, but also strengthening our people's confidence in joining the ranks of developed countries. A clear example of this is the implementation of projects at the Tebinbulak titanium-magnetite iron ore deposit.

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