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Author: Mr. Albert Khayrutdinov
National University of Science and Technology (Zimbabwe), Russian Federation,
khayrutdinov.albert99@gmail.com

Ms. Cheynesh Kongar-Syuryun
National University of Science and Technology (Zimbabwe), Russian Federation, Cheynesh95@mail.ru
Ms. Yulia Tyulyaeva
National University of Science and Technology (Zimbabwe), Russian Federation, tyulyaevayu@gmail.com
Mr. Adam Rybak
Wroclaw University of Science and Technology, Poland, 252081@student.pwr.edu.pl

PLANETARY TECHNOLOGY - THE SCIENCE OF THE FUTURE

Abstract

This paper provides a brief analysis of the development of geotechnology and the mining industry. The problems that the industry has been facing recently due to the depletion of reserves are described, as well as the impact of geotechnology and mining enterprises on the environmental situation of the development region. In addition to the previously known forms of geotechnology impact on the environment, identified and disclosed to other characteristics of the impact of mining industry on the environment: mining and tectonic strikes; education failures; cracking; the disappearance of watercourses; technogenic seismicity; technogenic vibrations, vibrations and earthquakes that occur due to the intensification of mineral extraction and the transition of development to great depths. The main task for geotechnology is the development of the mineral resource complex and the mining industry, but at the same time the creation of comfortable living conditions on Earth is the main concept of the development of civilization. All this, combined with the depletion of mineral resources and the high level of knowledge of some cosmic bodies, allows us to conclude that the resources of celestial bodies have a number of unique features, which makes them attractive for development. The development of the mineral resource base of space bodies will allow to meet the increasing economic needs for mineral raw materials, expand the mineral resource base, solve the issue of environmental safety, and as a result, create comfortable living conditions. At the same time, with all the interest in the development of the mineral resource base of cosmic bodies and quite large-scale research, it should be noted that research is conducted in different directions and is not systematized into a single science. It is also necessary to take into account that there is no experience of extracting a useful component on celestial bodies. When developing a technology for extracting minerals on celestial bodies, it is necessary to take into account the accumulated experience of developing the Earth's interior but take into account that the extraction of minerals on celestial bodies does not fully resemble geotechnology. Consequently, there were prerequisites to allocate in a separate direction, or in a separate science, research on the development of the mineral resource base of celestial bodies. The proposed name is planetary technology. The subject of research of this science is defined, the goals and objectives are outlined.