

# **Systemic Approach to the Study of Natural and Man-Made Mining Complex of the Middle Urals**

**V.A. Pochechun**

*Ural State Mining University, Yekaterinburg*

**Key words and phrases:** balance; bio-geochemical balance; development; functioning; migration; mining complex; structure; systemic approach.

**Abstract:** In this paper we consider the possibility of studying natural and industrial systems using a systematic approach. The complete information about the system is a set of assumptions about its structure, functioning and development. The structure of natural and man-made system has been revealed; it comprises the natural elements – background concentrations of elements in the components of the environment, man-made element – the mining complex and the current state of system elements – environmental components detected on the basis of geo-environmental assessment. The process of the system functioning caused by emissions, discharges and waste generation, migration of contaminants in the system and its stability on the basis of the biogeochemical balance has been studied. Further development of this system is possible through application of biogeochemical barriers.

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