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Monitoring of mineral deposits in order to optimize the use of subsoil resources

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Ukrainian subsoil contains nearly 20,000 deposits and occurrences of approximately 120 types of minerals, among which about 8280 deposits of nearly 100 kinds of minerals are of commercial value and are recorded by the State Balance of Mineral Resources. Today the industrial development attracted over 2,800 fields, on which more than 2,000 mining and processing enterprises operate. The planned signing of the Association Agreement between Ukraine and the European Union provides changes in the legal sphere, and hence in the sector of subsoil use. In this connection it is necessary to review and advance the issue of subsoil monitoring considering not only the European experience of similar works, but also their own scientific achievements and information resources.

Since 2011 Ukraine develops a new concept of monitoring at local (object) level. It deals with the implementation of special conditions by subsoil users concerning the subsoil use, and also the scientific support for subsoil use. Formation of such a concept is caused by the Procedure of special permits issue for subsoil use, approved by the Cabinet of Ministers of Ukraine, dated 30.05.2011 No. 615 [1].

The aim of monitoring and scientific support (MSS) is to provide subsoil users with the scientific advice and professional recommendations on:

- efficient and rational subsoil use, performance of special conditions on subsoil use, which are stipulated by Special permission for subsoil use and by the Agreement on subsoil use conditions;
- compliance with the legislation requirements, rules and standards of environmental protection;
- sequence of work performance on subsoil use, basic methods to complete them, the list of regulations and technical requirements needed for work performance including the requirements of subsoil and environmental protection;

- use of mine waste and wastage of related processing plants on one's own forces or with the help of other legal and individual bodies;
- preparing of relevant reports, which shall be passed for storage to the State scientific-production enterprise "State Geological and Informational Fund of Ukraine".

Unified methodological base for monitoring of subsoil use by specialized organizations should be improved in order to develop a monitoring system at local level. To implement the monitoring system it is necessary to develop operation of common information space based on automated information systems, and to promote an interest of subsoil users in subsoil monitoring through close cooperation with specialized organizations. Subsoil monitoring system of local level must correspond to the system of state environmental monitoring. Scientific support for exploration and mining works should be provided for further improvement of exploration and mining activities efficiency, completeness of extraction, comprehensiveness of mineral resources use and environmental protection.

References:

[1] On approval of Special permits issue for subsoil use: Cabinet of Ministers of Ukraine; Resolution, Procedure of 30.05.2011 No. 615. [Electronic resource]. – Access mode: <http://zakon2.rada.gov.ua/laws/show/615-2011-%D0%BF>.

