



Landscape and bio- geochemical strategy for monitoring transformation and reclamation of the soil mining sites

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Sites of active or abandoned mining represent areas of considerable technogenic impact and need scientifically ground organization of their monitoring and reclamation. The strategy of monitoring and reclamation depends on the scale and character of the physical, chemical and biological consequences of the disturbances. The geochemical studies for monitoring and rehabilitation of the career-dump complexes should methodically account of formation of the particular new landforms and the changes in circulation of the remobilized elements of the soil cover. However, the general strategy should account of both the initial and transformed landscape geochemical structure of the area with due regard to the natural and new content of chemical elements in the environmental components. For example the tailings and waste rocks present new geochemical fields with specifically different concentration of chemical elements that cause formation of new geochemical barriers and landscapes. The way of colonization of the newly formed landscapes depends upon the new geochemical features of the technogenic environment and the adaptive ability of local and intrusive flora. The newly formed biogeochemical anomalies need organization of permanent monitoring not only within the anomaly itself but also of its impact zones. Spatial landscape geochemical monitoring combined with bio-geochemical criteria of threshold concentrations seems to be a helpful tool for decision making on reclamation and operation of the soil mining sites to provide a long-term ecologically sustainable development of the impact zone as a whole.