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TO THE PROBLEM OF DEVELOPMENT OF TECHNOGENIC DEPOSITS USING THE TECHNOLOGY OF PRODUCTION OF COMPOSITE FUEL

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Purpose. The ways of obtaining composite fuel by means of the technology of development of technogenic mineral deposits are considered.

Methodology. Rational parameters of the finished energy-efficient products are substantiated as a result of research of adhesion-chemical technology of development of technogenic deposits of minerals

Findings. The problems dealing with the restoration of natural resources, the rational usage of natural resources, the resource saving, monitoring of the environmental situation, environmental protection, waste recycling are enshrined in the legislative acts of Ukraine, the decrees of the President of Ukraine, and the resolutions of the Cabinet of Ministers of Ukraine. They are also reflected in state and regional programs. Technical solutions which can help to obtain additional coal extraction are needed because of the demand for coal in Ukraine. One of the ways to solve the problems of effective power engineering is the production of composite fuel from the secondary raw materials of coal mining and heat power engineering, as well as the woodworking and agricultural industry. This research has been carried out under the budget base, the program of "Scientific substantiation of the methodological, technological, ecological and legal basis for extracting useful components from technogenic deposits in Ukraine" (GP-482) at the National Mining University, the Department of Underground Mining.

Key words: rational parameters, technogenic deposits, composite fuel

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NUMERICAL SIMULATION OF JOINTED ROCK MASS IN GEOMECHANICAL PROBLEMS

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Purpose. Study the possibility of realistically numerical simulation of a jointed rock mass and estimate the design rock mass strength involving discontinuity surface conditions and various shapes and sizes of rock blocks.

Methodology. The stress-strain state of rock mass could be determined using one of the numerical methods. We apply the finite element method (FEM) well proven in geomechanics problems in combination with the strength theory in the nonlinear formulation.

Findings. The reliability of numerical simulation depends on the reliability of determining the physical and mechanical properties of rocks. The Western Donbas