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APPLICATION OF ENGINEERING SEISMIC SURVEYS FOR INVESTIGATION OF GROUNDWATERS IN CLAYEY SOILS

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In this article, we analyze the possibilities and challenges of application of seismic surveys for the purposes of groundwater exploration in clayey soils. We consider premises for use of seismic methods for stratification of aeration zone and water-bearing soils, analyze models of distribution of elastic properties for the given task solution, fundamentals of field work methodology, and algorithms of data processing and interpretation. The conclusions can be employed for detalization of position of groundwater level in comparable engineering-geological conditions.

Keywords: *engineering seismic survey, clayey soils, groundwater, reflected waves, gradient environments, primary waves, shear waves.*

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QUARTZ-CARBONACEOUS METASOMATITES OF EASTERN DONBASS – HIGHLY DISPERSED ORES OF NONFERROUS, RARE AND NOBLE METALS

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Geology-structural, mineralogy-petrographic and thermobarogeochemic features of nonferrous ores and precious metals genetically assigned with quartz-carbonaceous metasomatites of Eastern Donbass, as well as with the results of autoclave leaching of elements-admixtures present in them have been considered in the paper.

Keywords: Eastern Donbass, quartz-carbonaceous metasomatites, highly dispersed ores, conditions of formation, autoclave leaching of elements-admixtures.

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ON BIOLOGICAL INDICATION OF TRANSPORT-URBAN LANDSCAPES BY FLUCTUATING ASYMMETRY METHOD

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*Value of fluctuating asymmetry of bilateral morphological features of leaf plates of woody species is the most acceptable method of biological landscape indication. Estimation of the consequences of anthropic influence suggests the comparison of model sites, located in the areas with different degree of anthropic influence to indicate the possibility of degradation or improvement of the organism. The analysis of experimental data shows that of the pointed spectrum of woody crops, growing on transport-urban landscapes, the largest value of fluctuating asymmetry is characteristic for *siringa vulgaris* and *betula pendula*. It allows us to come to the conclusion that these two crops are the most effective biological indicators.*

Keywords: transport-seliteb landscapes, biomonitoring, biological indication, fluctuating asymmetry, woody species, growth sustainability.

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GEOPHYSICAL METHODS OF ECOLOGICAL PROBLEMS SOLUTION IN THE EASTERN DONBASS (ANALYTICAL REVIEW)

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The results of ecogeophysical research in the Eastern Donbass as one of the modules of an integrated study of the ecological situation have been presented. The system approach in to the substantiation of ecological objectives, the creation of geological and geophysical models, the formation of an optimal set of modern methods and technologies, the implementation chart of geophysical studies with their most appropriate combination with the associated methods; with the operational attraction of new achievements in science and practice. The different ways of geophysical downhole surveys, used in hydro ecological monitoring have been also shown.

Keywords: *ecogeophysical research, electro-geophysical and atmogeochemical methods, aggregation, hydroecological monitoring.*

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