CONTENT

Technosphere safety in mining industry

Gendler S. G., ***Bolshanina Y. A.***, ***Vakhnin N. A.*** Effect of staff turnover on occupational injury rate in coal industry 5

Vurdova N. G., ***Ovchinnikova T. I.***, ***Meshchanova V. D.***, ***Vurdov P. Y.*** Opoka from Russian deposits as natural sorbent for wastewater treatment: Mineralogical and chemical compositions, adsorptive and structural properties..... 18

Geomechanics, Rock failure

Belyakov N. A., ***Potemkin D. A.***, ***Piagai P. V.*** Development of method for stress–strain prediction in retaining structures at tunnel portals under landslide forces and seismic loads 32

Sizin P. E. Theoretical and numerical modeling of electric conductance of rocks with coupling pores 48

Mine aerogasdynamics, Mining thermophysics

Golik V. I. Analysis of dust and gas pollution of the environment in upland quarrying 61

Lyadov E. A., ***Borodavkin D. A.***, ***Zaitsev A. V.*** Assessment of the degree of influence of air compressibility consideration on air distribution calculations in ventilation networks of deep mines..... 72

Geoecology

Beliakov K. V. Development of risk-based criteria and an approach to ensuring geoecological safety at gold mining enterprises 84

Sverchkov I. P. Comparison of methods for preparation of artificial samples of a known concentration for X-ray fluorescence analysis of plants 100

Storozhenko L. A., ***Shaikhutdinova M. M.***, ***Lebzin M. S.***, ***Prokopeva A. A.***, ***Boltyrov V. B.*** Contaminated soils of Degtyar copper mine (Middle Urals)..... 118

Mining machinery

Morin A. S., ***Israfilov R. G.***, ***Fomenko A. I.***, ***Gerasimova T. A.***, ***Ignatova O. S.*** Distribution of peak loads in hinged supports of belt elevator buckets in scooping..... 134

Enrichment of minerals

Lavrinenko A. A., ***Sysa P. A.***, ***Bushuev D. A.*** Removal of magnetite from the grinding cycle using a magnetic hydrocyclone..... 151

Redushev A. A., ***Kozlov N. I.***, ***Tsiganov A. E.*** Scientific foundation of selecting optimal parameters for the assembly units that form the core of vibration measurement equipment intended for determining the shock impact parameters of the grinding media in various types of mills 161

Energetics and energy efficiency of mining industry

Ataullayev N. O., ***Karshibayev A. I.***, ***Ataullayeva N. B.*** Methodology for determining null consequency current in one-phase locations on the ground in the energy systems of mining enterprises 171