

Contents

Martin UŽÍK, Marinko ŠKARE and David Linus ELFERICH: Gold as an alternative payment and save haven against inflation	1
Zuzana ŠIMKOVÁ, Lucia BEDNÁROVÁ, Roman DANDA and Hamdi Arabi DERKAWI: The rate of use of the Circular Economy in individual sectors	13
Beata BORSKA, Dawid SZURGACZ, Jiří POKORNÝ, Sergey ZHIRONKIN and Olga ZHIRONKINA: Human Factors in the Development of the Hydraulic System of the Powered Roof Support	27
Stanislaw GIL and Grzegorz PELON: Development of short-term prediction with regard to a number of accidents at work using the scoring method	38
Muharrem Kemal OZFIRAT, Pinar Mizrak OZFIRAT and Mustafa Emre YETKIN: Risk Management for Surface Plants in Mines using Risk Matrix and BowTie Analysis	47
Gustáv JABLONSKÝ, Augustín VARGA, Stanislav TURŇA, Pavol VESELOVSKÝ and Vladimír CHOMIČ: Prevent of clogging via a mathematical model of heat transfer in submerged entry nozzle	59
Giedrė LAPINSKIENĖ, Askoldas PODVIEZKO and Manuela TVARONAVIČIENĖ: The State Of International Technology Transfer In The Northern Europe Region: Comparative Analysis By Modern Multiple Criteria Methods	69
Dalia STREIMIKIENE, Vidas LEKAVICIUS and Indre SIKSNELYTE-BUTKIENE: Review and assessment of import diversification methods and measures in the primary economic sector	83
Judit OLÁH, Erdenebayar CHULUUNBAATAR, Ervin BALÁZS and József POPP: The socio-environmental challenges in the transition to sustainable bioeconomy: a review	98
Ján PETROVSKÝ, Lucia KLEINOVÁ, Rastislav PETROVSKÝ, Ivana KRAJŇÁKOVÁ and Karolína BORTÁKOVÁ: Role of Information Communication Technologies Regarding Employment Aspect in Mining Industry	113
Zygmunt NIEDOJADŁO, Tomasz STOCH, Janusz JURA, Paweł SOPATA, Artur WÓJCIK and Dawid MROCHEŃ: Monitoring and modelling the deformation state of a dyke of a flotation tailings reservoir of a copper ore mine	123
Marek VOCHOZKA, Andrea NOVOTNÁ and Blanka BOROVKOVÁ: Driving Forces Behind Gas Price in Global Markets	141
Shuren WANG, Guoji MA, Dingqi LI, Yunxing CAO and Wenxue CHEN: Relieving Pressure and Improving Permeability of Soft Coal at Top and Bottom by Hydraulic Cavitation	157
Sofia KOSHARNA, Jacqueline TIMMER and Ľubica KOZÁKOVÁ: Ecological assessment of Uncle Sam Gulch Creek water quality under conditions of acid mine drainage	179
Vlastimil HUDEČEK, Jindřich ŠANCER and Václav ZUBÍČEK: Possibilities of exploitation of graphite deposit in the Czech republic	191
Volodymyr SABAT, Bohdan DURNYAK, Lyubomyr SIKORA and Volodymyr POLISHCHUK: Research on the assessment of the risk situations emergence for automated control systems of the metallurgical industry companies	201



- Levent KARTAL, Aysel ŞEN and Servet TIMUR:** The removal of heavy metals from refinery effluents by sulfide precipitation **214**
- Beatrice PLEŠINGEROVÁ, Pavol VADÁSZ, Dávid MEDVEĎ, Gustáv JABLONSKÝ, Gabriel SUČIK and Róbert DZURŇÁK:** Characterisation of Dendromass Ash Fractions Captured in Power Plant with a View to their Further Utilization **226**
- Mariusz WOSZCZYŃSKI, Dariusz JASIULEK, Jerzy JAGODA, Krzysztof KACZMARCZYK, Piotr MATUSIAK, Daniel KOWOL and Bartosz MARCINIAK:** Monitoring of the mining waste neutralization facility of LW Bogdanka **236**
- Agnieszka MOSKA, Dariusz MALCZEWSKI, Jerzy ŻABA and Maria DZIURÓWICZ:** Natural radioactivity in select metamorphic and sedimentary rocks of the Opava Mountains (Poland): A comparison between laboratory and in situ measurements of ^{232}Th , ^{238}U , and ^{40}K activities **250**



© 2023 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).