NM P 3

Termijska analiza procesa oksidacije prirodnog minerala milerita

Aleksandra Mitovski[1], Duško Minić[2], Miroslav Sokić[3], Nada Štrbac[1], Aleksandra Daković[3], Dejan Gurešić[2], Milica Tomović[2]

[1]*Univerzitet u Beogradu, Tehnički fakultet u Boru, VJ 12, Bor, Srbija*

[2]*Univerzitet u Prištini, Fakultet Tehničkih nauka, Kosovska Mitrovica, Srbija*

[3]*ITNMS, Bulevar Franše d'Eperea 86, Beograd, Srbija*

Sulfidi nikla česti su pratioci sulfidnih minerala bakra. Sa aspekta pirometalurške proizvodnje bakra, nikl spada u onečišćujuće, toksične komponente. U cilju boljeg poznavanja faznih promena tokom procesa oksidacije, urađena je DTA-TG analiza prirodnog minerala milerita. Termijska analiza rađena je u temperaturnom intervalu 25-1000 °C pri različitim brzinama zagrevanja. Konstruisani su dijagrami stabilnosti faza Ni-O-S sistema na nekoliko karakterističnih temperatura. Komparativnom analizom dobijenih rezultata predložen je reakcioni mehanizam razlaganja milerita na povišenim temperaturama u atmosferi vazduha.

Zahvalnica: *Autori se zahvaljuju Ministarstvu prosvete, nauke i tehnološkog razvoja Republike Srbije na podršci u istraživanjima (TR 34023).*

Thermal analysis of the natural mineral milerite oxidation process

Aleksandra Mitovski[1], Duško Minić[2], Miroslav Sokić[3], Nada Štrbac[1], Aleksandra Daković[3], Dejan Gurešić[2], Milica Tomović[2]

[1]*University of Belgrade, Technical Faculty in Bor, Serbia*

[2]*University of Priština, Faculty of Technical Science, Kosovska Mitrovica, Serbia*

[3]*Institute for Technology of Nuclear and Other Mineral Raw Materials, Belgrade, Serbia*

Sulfides of nickel are frequent followers of sulphide based copper minerals. From the aspect of pyrometallurgical copper production, nickel belongs to polluting, toxic components. In order to better understanding the phase changes during the oxidation process of the natural mineral milerite DTA-TG analysis was done. Thermal analysis was performed in temperature interval 25-1000 °C at various heating rates. Phase stability diagrams of the Ni-O-S system were constructed at some characteristic temperatures. Based on comparative analysis of the obtained results a reaction mechanism for the decomposition of milerite at elevated temperatures in the air atmosphere was proposed.

Acknowledgement: *Authors are grateful to the Ministry of Education, Science and Technological Development of the Republic of Serbia for the support in the research (TR 34023).*