

عنوان مقاله:

Korkinsk Brown Coal Open Pit as a Case Study of Endogenous Fires

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نویسندگان:

K. Argimbaev - Faculty of Mining, Saint Petersburg Mining University, St. Petersburg, Russia Federation

C. Drebenstedt - Institute for Mining and Civil Engineering, Technical University Bergakademie Freiberg, Freiberg, Germany

خلاصه مقاله:

Abrupt termination of the coal open pit operation is complicated in many cases by endogenous fires that not only cause significant damage to property but also worsen sanitation and hygienic conditions for human life in nearby settlements, as well as those for fauna and flora. Therefore, the purpose of the research was to prevent endogenous fires at Korkinsk brown coal open pit. In this connection, we used an analytical method to process the statistical data obtained from observations. The laboratory method included the study of coal samples for moisture exchange intensity by creating conditions with relative humidity up to 97 %, temperature up to plus 50°C and air speed up to 0.5 l/minute. Dependencies were determined for fire occurrence frequency, relative humidity, and average temperature of the air upon the time of day, the intensity of moisture evaporation and initial coal humidity on equilibrium coal humidity as well as the intensity of moisture absorption and equilibrium coal humidity upon initial humidity in different temperature periods. An environmentally friendly solution was created that featured good adhesion to the materials being coated, fire and explosion resistance. The results obtained make it possible to understand the causes and methods of fighting endogenous fires.

کلمات کلیدی:

Antipyrogen, Coal Open Pit, Endogenous Fire, Korkinsk Brown Coal

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