Summaries

ALFONS KRAWIEC

The Method of Percussive Hydraulic Fracturing of Rock Mass With Blasting Fired in Blastholes Filled with Water Under Pressure from The Point of View of Reducing Rock-Bump Hazard • Kwartalnik Górnictwo i Geoinżynieria • z. 3, 2005

Ali methods of reducing rock-bump hazard in our coalmines arę important and up-to-date and as such should be permanently and consistently developed and improved using the latest achievements in science and mining technology in this field. This applies particulary to combating rock-bump with active methods. The author discussed in details selected comments on methods of active rock-bump hazard reduction with shock blasting and infusion of water under pressure into the rock mass indicating their Iow effectiveness and reliability. Hence, the author proposed radical solution of this problem consisting in aggressive increase of applying technical means to rock mass. This aim was achieved by combining into one procedure two methods of active rock-bump hazard reduction that were used separately so far, that is shock blasting and forcing water under pressure. The original method of active reduction of rock-bump hazard established in this way was called the method of percussive hydraulic fracturing of rock mass with blasting fired in blast holes filled with water under pressure. The essence and mechanism of this method were described in details. The method under discussion applied for methane drainage of the seam 501/510 in „Wesoła" Coal Mine produced sensational results, that is fifteen fold increase of methane emission from methane drainage borehole, keeping the same conditions during the time of conducting the experiment. Therefore the author of this paper proposes to apply this method also to reducing rock-bump hazards.

Keywords: *hydraulic fracturing of rock mass, rock-bump prevention, reducing rock-bump hazard with active methods*

MICHALINA MACHOWICZ

The Influence of the Air Shock Wwave on the Surroundings • Kwartalnik Górnictwo i Geoinżynieria • z. 3, 2005

Using explosives in blastic technique and demolishing works are connected with disadvantageous influence on the surroundings. Besides the following threats: para-seismic vibrations, dispertion of rocky pieces, dustiness, the air shock wave is also created. The method of its range determination has been regulated within a suitable rule. However, that method may be applied in general terms. There only the mass of explosive load and the depth of its putting into the rock have been taken into consideration. However, there are some factors influencing the range, which haven't been included. The performed researches has confirmed supposition, that explosives with different capacities generate waves with different values of pressure. Thus, it seems to be reasonable to complete the applied methods the air shock wave parameters determination and also its range of activity with the influence of a given type of detonated explosive.

Keywords: *explosive material, detonation, air wave shock, intensity of shock wave*

MACIEJ PAWLIKOWSKI, *TADEUSZ MIKOŚ*, *JANUSZ CHMURA*, *ANDRZEJ LASOŃ*

Problems of Mining Preservation, Stabilization as well as Penetration of Rocky Tombs in Egypt • Kwartalnik Górnictwo i Geoinżynieria • z. 3, 2005

The geotechnical and geological site characterisation in the vicinity of the Hatszepsut temple in Deir el-Bahari (Upper Egypt) was performed by the AGH team. That was a part of a special research program performed by

AGH workers. The fore-shafts and inclined drifts for sarcophagus transport to thumb caverns are dig out during archeological process. These excavations were usually intentionally buried. With passing millenniums, soil material was compacted and formed a wall pillar. That's why, it's very important to prepare the range of investigating and penetrating works and to identify scale of the potential hazards. It's necessary to get access to ancient caverns for scientists an tourists.

Keywords: *underground antique objects, mining preservation, archeology*

MARTINA RAPTHEL

Closure and Aftercare Regime for Landfills below the Water Table • Kwartalnik Górnictwo i Geoinżynieria • z. 3, 2005

The closure and after care regime for landfills below the water table is discussed. Basic conditions and variants established for the environment-compatible closure and after-care of sub-aquatic landfills were developed and investigated. The German landfill "Halle-Lochau" is a typical example of such a landfill in a former open cast mining. The optimal solution determined by the research project will be the basis for the closure regime of the Halle-Lochau landfill. Furthermore, in the framework of the generalization of research results it shall also be applicable to other landfills with similar site requirements and starting conditions.

Keywords: *environmental protection, liquidation of stockyard of waste*

RYSZARD SNOPKOWSKI

Functions of Random Variables — Possibility of Reduction of Stochastic Models (Part II) • Kwartalnik Górnictwo i Geoinżynieria • z. 3, 2005

This paper contain consideration about described the possibility of reduction of stochastic models by usage functional relationships, which can occur between random variables in model. Functional relations were also described, which as outcome schedule gave normal distribution, log-normal distribution, *t*-Student distribution and exponential distribution. In first part of publication [8], the outcome distribution were: beta, chi-square, Cauchy, *F*-Snedecor, gamma and uniform. The usage ofdescribed functions of random variables in stochastic model, can have the profitable influence on its further utilization, through the simplification of its record in figure of computer programme and the shortening of the stochastic simulation process..

Keywords: *modelling the processes, stochastic simulation, functions of random variables*

RYSZARD WOSZ

Deflection and Stratification of the Direct and Basic Roof during exploitation the copper Deposit in LGOM • Kwartalnik Górnictwo i Geoinżynieria • z. 3, 2005

The article is continuation of the research works concerning the principal and direct roof strata deflection above the deposit mined by means of the chamber-pillar system with roof deflection in the exploitation conditions of the copper deposits in LGOM. A model of the roof deflection and the solutions of the equations of the beam's axis deflection have been shown in the earlier papers. In this paper has presented the functions of the deflection with two points: A and B of start of stratification the Basic and Direct Roof. The Point A has located in the area over the seam of deposit, and the Point B — over the pillars (Fig. 1). The new constants of equations have been calculated. The new lines describing deflection of the Roof Beams have been presented in the figure 2 and 3.

Keywords: *rock massive, underground excavation, deflection of the beams on the Winkler's ground*