

Summaries

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The Strength's Analysis of MES of Sill Piece of Mechanized Casing "Glinik 15/32 Poz" • Kwartalnik Górnictwo i Geoinżynieria • z. 1, 2006

The paper presents strength analysis of uniform roof supports for caving "Glinik 15/32 POz" working in an underground coal mine using the finite element analysis method. This analysis uses the professional FEM package NE/Nastran for a Microsoft Windows based system. The paper highlights three different case studies of base roof supports for caving using simulations of different working modes.

Keywords: *sill piece, mechanized casing, finite elements method*

KRZYSZTOF FILEK, PIOTR ŁUSKA, BERNARD NOWAK

The change of thermodynamic variables of air in the mine refrigerator evaporator with the refrigerant R407C • Kwartalnik Górnictwo i Geoinżynieria • z. 1, 2006

The main topic in this publication is connected with work of mine compression refrigerator with the refrigerant R407C. The publication includes the results of the change of temperature and air humidity, which are proceed in the evaporator. 45 variants were tested. This variants were differed in properties (temperature, relative humidity and flow rate through the evaporator). In the work are shown the results of 24 variants, for which the properties of air inlet are the most close to reality (excavations in the underground mines). Moreover, this publication includes the results of numerical calculations of precooled air parameters and the thermal power of evaporator. In this case all results of air parameters before precooling are used as the input data. The findings are compiled in the tabular form and in the shape of diagram.

Keywords: *mine air conditioning, cooling of air, refrigerants*

STANISŁAW NAWRAT, ZBIGNIEW KUCZERA, SEBASTIAN NAPIERAJ

Influence of Drainage Technics for Efficiency of Drainage in Coal Mine • Kwartalnik Górnictwo i Geoinżynieria • z. 1, 2006

Coal seams drainage is made for control of work safety in coal mines. One of the method for coal seams drainage efficiency control is use drainage efficiency factor for provide work safety. Coal seams drainage is depend from a lot of natural and technical factors. Influence of factors for drainage is difficult for qualify, from this reason can be research only in statistical way. Article presents research of influence some drainage parameters for drainage efficiency for exploitation and corridor excavations. Statistical researchers allow to determinate dependence of drainage efficiency from factors like: under pressure in pipe line and density of drainage holes, with can be use in drainage design process, in coal mines.

Keywords: *drainage, efficiency of drainage, drainage holes*

MACIEJ PAWLIKOWSKI

Investigation of Rocks Present under and over Hatshepsut Temple — Deir El Bahari — Upper Egypt • Kwartalnik Górnictwo i Geoinżynieria • z. 1, 2006

Geological field investigation of rocks present under and above temple of Queen Hatshepsut in Upper Egypt were performed. Investigation showed the place prepared for construction of temple was specially prepared. The part of

rocky cliff present at the end of Deir el-Bahari valley was cut by miners. Observation of temple foundations showed the presence of thin layer containing remains of human activity represented by fragments of pottery, charcoal, dactyl stones etc. documenting the area under consideration was the building lot and construction of architectonic elements of temple was constructed step by step. Moreover observation of base of foundations showed that they are situated on the top surface of limestone layers constituting intercalations in Esna shale ore are located on Esna shale cut in from of steps. At same places mentioned layers of limestones were used as roof of underground tombs and chapels i.e. They were perforated from top down and the chambers and corridors of tombs were shafted in soft Esna shale. Rocky material removed from cut cliff was deposited as base for construction of the middle terrace of the temple. In conclusion one can say that performed investigation and reconstruction of geology conditions as well as engineering works helped understand general scheme of phases of Hatshepsut temple construction.

Keywords: *geology, engineering, Hatshepsut temple*

NIKODEM SZŁĄZAK, MAREK BOROWSKI

Measurements of Methane Emission to Headings Drivages with Continuous Miners in Coal Seams • *kwartalnik Górnictwo i Geoinżynieria* • z. 1, 2006

This article characterizes the sources of methane emission to a heading. Dependencies, on whose basis the stream of methane emitted from extracted coal, surface area of coal walls and face of heading can be calculated, are given. The results of measurements of methane emission to headings with continuous miners of very gassy mines, which were ventilated by means of overlap auxiliary ventilation system (main forcing duct and short exhaust duct with a dust separator) are presented. On the basis of those results the co-efficient characterizing velocity of methane emission from surface area of coal wall and intensity of emission from exposed surface area of coal was determined. The values of those co-efficients are dependent on average methane content of coal seam (which was determined during underground drivages). The percentage contribution of face zone of heading comprising 50 m from the face in total volumetric methane flow was also determined. On the basis of those measurements it can be concluded that this zone includes 65% of total methane emission into a heading.

Keywords: *duct ventilation, methane hazard, methane emission*