

Summaries

BRONISŁAW BARCHAŃSKI

Civil Engineering Exploitation during the Liquidation of the Hazardous Waste Disposal “Fischer Deponie”
— Austria • Kwartalnik Górnictwo i Geoinżynieria • z. 4, 2006

Waste disposal in after exploitation workings has at times been realized with violation of legal regulations in the field of water protection. One of the ways to undo the environmental damages caused by unlawful waste disposal is the total liquidation of the disposal. Liquidation of the “Fischer Deponie” hazardous waste disposal will be presented in the following article.

Keywords: waste disposal, disposal liquidation, civil engineering

JOANNA HYDZIK, PIOTR CZAJA

New Materials in Protection and Conservation of Monuments • Kwartalnik Górnictwo i Geoinżynieria • z. 4, 2006

Monuments objects are influenced by permanent degradation process as a results of differently external agents and natural grow old of a components. In connection with this, more and more monuments require very expensive and complicated repair. This paper presents characteristics of the newest materials, which we use for protecting surfaces, strengthening building structures and improvement of thermal conditions.

Keywords: engineering materials, protection of monuments, conservation of monuments

IRENEUSZ FIRLIT

The Selection of Way of the Central Field Exploitation with Preservation of Historic Parts of Giszowiec Housing Estate Taken into Account • Kwartalnik Górnictwo i Geoinżynieria • z. 4, 2006

The process of mining coal in the 80s, which caused slight deformations in Giszowiec housing estate, obliged mines to analyses the way of selecting the field in order to preserve the historic parts and blocks of flats of the housing estate. On the basis of analyses concerning geological — mining conditions, the central field on the 510 seam, the prognosis of the surface deformations, as well as evaluation of resistance of the historic building and block of flats in Giszowiec housing estate, the extraction process with ceiling collapse of the seam is taking place within shortened range and with grouting of gob areas with smoke-box dust.

Keywords: monument preservation, waste disposal, mining, influence of mining on land

ZDZISŁAW B. KOHUTEK, STANISŁAW ŻAK

XL Anniversary of Reconstruction and Renovation of Underground Structure under the Old Town in Opatów • Kwartalnik Górnictwo i Geoinżynieria • z. 4, 2006

Reasons of endargement were mentioned at the beginning of the article. In this part both historical (the presence of multi-storey, underground labyrinth with chambers and galleries, which were bored in XIV–XVII century in order to store articles of trade in them) and geotechnical (the loess ground which becomes plastic or liquid as the result

of watering) aspects were discussed. Then the programme of rescue works (recognition, liquidation and protection operations) was described. Those works have been conducted by engaging the specialist of mining and building sectors. One of the result of those works is the underground touristic route. In another chapter the aspect of investors engagement and the role of coordination and supervision — in accordance with Z-S Method were described. This chapter explains the essence and meaning of the abovementioned method. Recapitulation presents the quantity results of action in perspective of 40 years.

Keywords: *endargement of Old Town, rescure works in underground, Z-S Method*

TADEUSZ MIKOŚ, JANUSZ CHMURA

Problems of Mining Archeology in International Scientific Cooperation • Kwartalnik Górnictwo i Geoinżynieria • z. 4, 2006

The subject of archeology is the research of excavations and finds, as well as studies on the surviving elements of the historical landscape. They provide information on aspects of past human activity, especially with regard to economy and the technology of producing tools and consumer goods. Research concerning prehistory and the history of mining stirs particular interest. Today, the cooperation between mining engineering and mining archeology casts new light on the thousands of years of the mining civilization's existence, on the great skills of acquiring and processing raw materials, on mining technologies applied in old mines. Over thousand-year-long history of mankind, mining has always initiated technological progress. Also, many villages and towns owe their establishment to mining. Due to research in the field of mining archeology, many secrets related to ancient mining are still being uncovered.

Keywords: *mining archeology, history of mining industry, scientific cooperation*

MARTA PAJAŁ

Reinforcements of Old Buildings Foundations for Example of Stabilization of the Saints Peter's and Paul's Church in Krakow • Kwartalnik Górnictwo i Geoinżynieria • z. 4, 2006

The mostly reasons of buildings foundations destructions and simplistic classification of reinforcements foundations methods in buildings and standards of suitability of reinforcements methods foundations have been presented in the paper. Ground conditions of the Old City in Krakow have been presented in the paper. Widely have been discussed the case of Saints Peter and Paul Church. The paper deals with history of this building, its construction and settlements of pillars and crypts foundations. The conception of solving the problem following the settlements and realization Mega piles has been presented in the paper.

Keywords: *destructions of foundations, reinforcements of foundations, Mega piles*

DOROTA PAWLUŚ

Application of Neural Networks to the Predication of the Surface Subsidence • Kwartalnik Górnictwo i Geoinżynieria • z. 4, 2006

This paper presents an application of neural networks for the prediction of a surface subsidence. The main advantage of the artificial neural network approach is that there is no need to assume the type of functional relation and there is no need to have an accurate knowledge of material properties in the area of interest. Only the geometry of the neural network has to be chosen and the learning procedure has to be successfully completed. There are several types of neural network geometry. The the multi-layer feed-forward networks were used for modeling the surface subsidence trough. Neural networks need to learn in order to produce useful results. There are two different kinds of learning: unsupervised learning and supervised learning. The supervised learning has been used. The networks were used as a solution to following problem. There was given excavated quadrangular area which was described by the following factors: the coordinates of vertices of a worked area, the seam thickness, the depth of the opening. We want to predicate the final subsidence of any point $P(x,y)$. The neural networks could be used for computing the surface subsidence. The autor will intend to use networks for computing the other factors of the surface deformations.

Keywords: *surface subsidence, neural network*

JANUSZ PIĄTEK, URSZULA MYGA-PIĄTEK, JANUSZ MIEDUNIECKI

Problem of the Renovation of the Basements in the Area of the Zamkowe Hill in Będzin — Synopsis • *Quartalnik Górnictwo i Geoinżynieria* • z. 4, 2006

One of the attractions in the medieval Będzin are the basements situated in the eastern part of the Zamkowe Hill. The aim of this article is to characterize morphological and morphometrical specificity of this structure, description of its presumable genesis and present condition, as well as its development. The article describes the problem of the renovation of the basements within the confines of general natural and cultural virtues, and it justifies the conception of their tourist use. The article has been prepared on the basis of area research, stocktaking of the passageways, literature and cartographic studies, as well as the data from complementary projects concerning the development of the Zamkowe Hill. The after-German basements, which are described in the article, are situated in the eastern part of the Zamkowe Hill between Kołłątajowa Avenue and Podzamcze Street. They started to exist because of unnatural widening of tectonic and karst cracks of the limestones coming from the Middle Triassic. The anthropogenesis of the after-German basements hasn't been clearly explained till nowadays. It is said that they had come into existence during the Second World War, probably as depots of the Wehrmacht's weapons or air-raid shelters in the near area of castle. There is a hypothesis that it could be a place of an underground weapon factory. Because of the age of the headings and any earlier made security operations, the technical conditions of the passageways are very differential. Because the headings were made by using the blasting methods and there were natural processes of the displacement of rocks around the unbuilt parts of the headings, what happens for over 60 years, there is seen loosening and falling off the calcareous and dolomite banks. We can notice different building stages of the passageways. It is required to use different kinds of protection methods. There are some places where the protection is needless. The conception of future development of the basements creates three spheres with different levels of intensity of popularizing and using them. It is intended to run a tourist activity in the first sphere — as an area open to everybody. The second sphere — commercial — is connected with services. The third sphere will have a limited access. The chosen passageways will be an area of bats and they will be covered by a scientific monitoring of geological, geomorphological and ecological processes.

Keywords: *an underground passage, tourist accessible, revitalization, cultural values*

WOJCIECH PREIDL

Technical Valuation of the Lining of Główna Kluczowa Sztolnia Dziedziczna on Zabrze Sector • *Quartalnik Górnictwo i Geoinżynieria* • z. 4, 2006

In this paper have shown the results of stonework lining check samples research and the chemical properties research of the water flowing in the water gallery. Basis on such analysis and investigation in situ, the author tried to valuate its technical condition. Has taken into account also results of the load on the lining calculations. The tunnel on the 2,5 km Zabrze sector was driven between 1799 and 1810. The tunnel's lining was constructed as a stonework lime mortar. For the whole period of existence the water gallery was treated by the negative environmental influence. It is predicted this conditions have negative influence on the lining's strength and stability. Comparison of the strength and stresses in the lining allowed to valuate of its stability. The research was done for using the Zabrze sector of the Główna Kluczowa Sztolnia Dziedziczna for geo-tourist route purposes.

Keywords: *excavation lining, monuments technik's*

ANNA SOBOTKA, ANNA ŻELAZNA-BLICHAZ, PIOTR BLICHAZ

Economic Analysis with Using Target Costing of Construction Project in Public Private Partnership • *Quartalnik Górnictwo i Geoinżynieria* • z. 4, 2006

Public Private Partnership (PPP) is the system of realizing investment — enterprises for public purposes that is practiced in the world. It is the solution that should be practiced in Poland, also with the usage of the funds from the European Union. One of the main problems, that should be solved while undertaking investments in any model of the system Public Private Partnership (PPP), is a right estimation of costs of the investment — enterprise and making the calculation of the investment efficiency. This calculation has to include both all the stages of the investment cycle (i.e. from the idea into the exploitation) and the exploitation cycle of the resources that is contracted for lending services and managing the resources by the private partner. The authors of this article present the method of economic analysis on the example of the hypothetical road — investment of a ring-road.

This method uses the traditional tool that is practiced in the economic estimation of the profitability of the investment — enterprises, e.g. NPV (updated net value) and the account of target costing that is the fundamental element of cost calculation and refers to the whole life cycle of the product. The example is prefaced by a short characteristics of Public Private Partnership (PPP) and the method of target costing.

Keywords: *public private partnership, target costing, investment efficiency, life cycle, road*

NIKODEM SZŁĄZAK, DARIUSZ OBRACAJ, MAREK BOROWSKI

Microclimate Conditions of Unique Objects in Underground Object of Salt Mine • Kwartalnik Górnictwo i Geoinżynieria • z. 4, 2006

The conditions in which salt exhibits are preserved in the form of salt sculptures, reliefs or salt crystals depend on the parameters of air in the place where they are kept. In the case of underground objects, these exhibits are kept in ventilation air whose thermodynamic parameters change during the year. This paper presents the processes of heat and moisture exchange between rock salt and air. The values of air parameters for which harmful phenomena to sculptures and salt crystals are determined. The possibilities of preserving especially valuable salt crystals in underground excavations are also presented.

Keywords: *salt exhibits, microclimate, airflow parameters*

BOGDAN WŁODARZ

Historic Ore Mine in Olkusz and Its Prospects • Kwartalnik Górnictwo i Geoinżynieria • z. 4, 2006

The beginning of ore mining in the region of Olkusz dates back to the 13th century. It probably appeared with the emergence of the Polish state. Over the years, it went through ups and downs. Presently, we have reached the point where resources are running out and the decline of local mining is a fact. Therefore, it is necessary to leave evidence of its existence for our children. The reconstruction of the medieval mine drainage tunnels or calamine heading is out of the question. However, it is possible to make use of the remains of the Olkusz mine to build an underground tourist itinerary and create the Ore Mining Museum. The conceptual works have been going on for a few years now. The absence of formal barriers and the excellent financial situation of ZGH "Bolesław" Co. in Bukowno hold promise for the Ore Mining Museum in Olkusz.

Keywords: *historic mine, ore mining, museology*