

## SUMMARIES

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Maria Trafas, Teresa Eckes, Tadeusz Gołda: **Local Variability in the Content of Heavy Metals in Soils in the Region of Olkusz**  
• Inżynieria Środowiska 2006, t. 11, z. 2

In the paper the results of the survey on soils were presented. The soil samples were located in a study field in the Olkusz region. Single samples were taken from the fields 50 × 50 m, layer 0–20 cm in distances of 10 metres. Apart from this a mean sample of 30 small samples was taken. There were also 5 excavations made from the layers of 5 cm thickness, up to 20 cm depth and 10 cm up to 80 cm depth. Their basic physical properties were defined (grain composition, volume density) as well as chemical properties (pH in H<sub>2</sub>O and KCl, PEW, content of CaCO<sub>3</sub>, losses at roasting) and the content of heavy metals. The results were analysed in terms of surface variability and the influence of ore-bearing dolomites on the distribution of heavy metals in soil profiles of different depth. It was found that, in the surface layers, the soils contained significant quantities of Zn, Pb and Cd. These quantities diminish with depth, but increase again in the levels with the addition of clay-like weathered dolomites. The comments on the definition of soil pollution and standards of soil quality were also made.

Marian Mazur, Robert Oleniacz, Marek Bogacki, Przemysław Szczygłowski: **Pollutant Emissions from the Acheson Furnace for Graphitising of Fine Products** • Inżynieria Środowiska 2006, t. 11, z. 2

In the paper research results of the air pollutant emissions from the graphitising process of fine products in the electric resistance Acheson furnace (discharge capacity 5,5 Mg) were presented. Research was performed for two kinds of raw material inputs (based on petroleum coke and pitch coke). Approximately 40-hours measurement series were carried out for each material including mainly such substances like carbon monoxide, hydrocarbons, nitrogen oxides, sulphur dioxide, hydrogen sulphide, carbon disulphide, ammonia, benzene, toluene, xylenes, total dust, tar substances and polycyclic aromatic hydrocarbons. Both average and maximum concentrations and mass streams in the flue gases and average emission factors were presented for the substances.

Natalia Florencka, Piotr Wojtanowicz: **Vertical Distribution of the Mercury Content in Selected Soil Profiles in the Region of Alwernia** • Inżynieria Środowiska 2006, t. 11, z. 2

In the article the studies referring to the definition of vertical distribution of mercury content in selected soil profiles were presented. Places of sampling were situated within the grounds used as meadows and forests in the vicinity of Chemical Plant "Alwernia" S.A. The concentration of mercury in the studied profiles was low and did not exceed 0.25 mg/kg. The decrease of the concentration with depth was observed both in meadows and forests. Maximum contents of mercury were observed in the layer of litter or in humus up to the depth of 5 cm. The correlation between the content of mercury and the quantity of organic substance was found, which confirms strong binding of this element in the organic or mineral-organic level.

Ryszard Kozakiewicz: **The Municipal Environmental Protection Programmes as a Tool of Ecological Education on Local Level** • Inżynieria Środowiska 2006, t. 11, z. 2

The ecological education is the essential task of public administration, penetrating all aspects of its activity. Raising the ecological awareness of community by everyday activities of authorities is as essential element of education system as schools and NGO-s activities. The paper takes up the issues of the role and tasks of ecological education, which refer to the system of Environmental Protection Programmes (EPP). Based on review of several EPP worked-out for municipalities in Malopolska Region, limitations and shortages in tasks implementation of ecological education have been pointed out as well as the reasons of those limitations and possibilities of their overcoming. Efficient fulfilling of the tasks in this field depends on strong substantial and organizing support from central and regional administration and certain financial support. For implementing the National Environmental Policy is needed the considerable enlargement of the local authorities activities in the range of ecological education tasks coordination and promotion the production and consumption models accomplishing the sustainable development rules

Stanisław Barycz, Rajmund Oruba: **Application of Concrete Core Samples to Investigations of Corrosive Degradation of Reinforced Concrete Chimneys** • Inżynieria Środowiska 2006, t. 11, z. 2

Structures of industrial chimneys corroded in the result of long operating. Application of concrete core samples to investigations of corrosive degradation of high reinforced concrete chimneys was presented in the paper. It is the most reliable method to evaluation of

technical condition of this objects. Principles of designation of testing places and procedures of sampling by use boring machine with diamond bit were described on the base of many years practice. Physical, chemical and strength laboratory tests of concrete samples were given. Results of this tests makes possibilities for structural analysis and operational safety evaluation of reinforced concrete chimneys.

Stanisław Barycz, Rajmund Oruba, Marian Świerczek: **The Reasons of Damages and Accelerated Technical Wear of Reinforced Concrete Container of Copper Concentrate** • Inżynieria Środowiska 2006, t. 11, z. 2

The paper presents the problem of damages and abnormalities of reinforced concrete container of copper ore concentrate after more than 20 years of operating. Observations and measurements of structures, results of physical, chemical and strength laboratory tests of taken concrete cores were described. The reasons of abnormalities was evaluated on the basis of above data and structural analysis (Finite Elements Method). Low quality of building works, design errors and operating in industrial corrosion aggressiveness caused damages and accelerated technical wear of this object.

Izabela Laskowicz, Katarzyna Sobik: **The Environmental Protection Program for the Tourist Commune Gródek above Dunajec River** • Inżynieria Środowiska 2006, t. 11, z. 2

Rational use of natural environment is one of the most important priorities in the ecological State policy. The communes environmental protection programs are the local tools for this aim. The paper contains a detailed assessment of selected natural environmental element in Gródek above Dunajec river: surface and ground waters, air, environment, soil quality and nature, as a natural capacity of future tourist project. Authors have presented main antropogenic special threats on this area, as well a short- and long-term strategy of protection were given. Furthermore, the problem of natural threats (slides and flood) as a limiting factor of local development were discussed. The article presented the Waste Management Program for a commune as well.