

CENTRUL UNIVERSITAR NORD DIN BAIA MARE
Facultatea de Inginerie

*NORTH UNIVERSITY CENTRE OF BAIA MARE
Faculty of Engineering*

BULETIN ȘTIINȚIFIC

AL CENTRULUI UNIVERSITAR NORD DIN BAIA MARE

SERIA D

Exploatări Miniere

Prepararea Substanțelor Minerale Utile

Metalurgie Neferoasă

Geologie și Ingineria Mediului

Volumul XXXIV Nr. 1

Indexat ProQuest, EBSCO, ERIH PLUS

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Mining

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Non-ferrous Metallurgy

Geology and Environmental Engineering

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Faculty of Engineering
Str. Dr. V. Babeş nr. 62A, 430083
Baia Mare, Romania
Tel. +40362-401266, Fax +40262-276153
Dorel.Gusat@cunbm.utcluj.ro

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2. Paper includes: title, authors, institution, abstract, keywords, paper content, conclusions and references.
3. Page dimensions A4, top 2cm, down 2cm, left 2,5cm, and right 2cm.
Times New Roman font, single spacing.
4. Paper's title will be written with capital letters 14pts, bold, centered. Authors will be written with 12pts, bold, italic, centered. Affiliation will be written with 12pts, italic, centered. Abstract and keywords with 10pts, italic, justify. After title, affiliation, abstract, keywords leave one line space. Before and after each subtitle leave one line space. Paper text will be written with 12pts, justify, figures/tables included in the text. References will be listed with 10pts.

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RECYCLING OF ALUMINUM WASTE RESULTING FROM EXTRUDED AND MOLDED PRODUCTS USED IN AERONAUTICAL TECHNIQUE

VASILE HOTEA¹, JOZSEF JUHASZ¹

*¹UTCN Cluj Napoca, North University Center of Baia Mare, Victor Babes 62A Street,
Baia Mare, Romania, vasilehotea50@yahoo.com*

***Abstract:** In this paper a case study was conducted at UAC Europe SRL which aims to analyze the detailed structure of the process components of waste recycling resulting from the extrusion and melting process, prepared to determine the factors underlying success, how the problem was identified, the chosen solutions and the highlighting of the final result, for the recycling of internal and manufacturing waste, the solution adopted and its advantages.*

STUDIES CONCERNING THE DETERMINATION OF CALCIUM AND MAGNESIUM IONS IN THE DUMBRAVITA AREA DRINKING WATER (FOUNTAIN WATER)

AURICA POP¹

*¹Technical University of Cluj Napoca, North University Center of Baia Mare, Department of
Mineral Resources, Materials and Environment Engineering, România*

Corresponding author's e-mail address: pop_aurica2003@yahoo.com

Abstract: *The paper showcases research conducted with the purpose of determining the Ca²⁺ and Mg²⁺ ions in the drinking water (fountain water) of a common household located in Dumbravita, Maramures County, Romania. The photometric method was used for this goal, as well as a Calcium and Magnesium Photometer. This study argues about implementing cost efficient techniques and precise analysis in order to determine Ca and Mg ions in the water samples.*

Keywords: *Photometric analysis, drinking water, fountain water, ions, chemical analysis*

IGNORANCE AND HYPOCRISY IN HOUSEHOLD AND INDUSTRIAL WASTE MANAGEMENT

ADINA BUD¹, IOAN BUD², DOREL GUŞAT²,

¹PhD student Eng. at University of Petrosani, Romania, ²Technical University of Cluj Napoca,

North University Center of Baia Mare, Department of Mineral Resources, Materials and

Environment Engineering, România

Corresponding author's e-mail address: AdinaBud@upet.ro

Keywords: waste, management, storage, leaching, uncontrolled burning

ABSTRACT

Waste management in Romania has become a problem with a very high environmental impact, especially in Maramureş County where it has overlapped with the pollution of mining waste. The article highlights the current context in which the population does not accept the construction of landfills, the authorities are not able to provide proof of competence, reaching a vicious cycle in which everyone loses. In this context, we consider that the substratum of the problem is the ignorance that manifests itself in the form of hypocrisy, most of those involved are "ecological", but in reality the environmental impact of irresponsible waste management is very serious.

ROCK MECHANICAL ASPECTS SIMULATIONS IN THE FUTURE OPEN PIT DEVELOPMENT

DOREL GUSAT, IOAN BUD

*Technical University of Cluj Napoca, North University Center of Baia Mare, Department of
Mineral Resources, Materials and Environment Engineering, România*

Corresponding author's e-mail address: Dorel .Gusat@gmail.com

Keyword: open pit, FLAC simulation, development

ABSTRACT

The proposed mining in a Porphyry copper deposit appears primarily restricted by the geometry/geomechanics of the deposit and secondly by mining methods and technology.

The Geometry/Geomechanics of one deposit can be divided into three sections:

- western block
- middle block
- eastern block

The greatest width has so far been discovered in the an middle block; all available information indicates that this will not change when the pit/mine is deepened. Assuming more or less continuous conditions within the three blocks towards the northern (rock will be added in the model) and southern rock) neighbouring rock the greatest depth of the pit (> 511 m depth) will be reached in the middle block.

STUDIES REGARDING THE DETERMINATION OF NITRITE IONS CONCENTRATION IN THE DUMBRAVITA AREA DRINKING WATER (FOUNTAIN WATER)

POP AURICA

*¹Technical University of Cluj Napoca, North University Center of Baia Mare, The
Department of Mineral Resources, Materials and Environment Engineering, România*

Corresponding author's e-mail address: pop_aurica2003@yahoo.com

Summary: *The paper showcases studies conducted in order to determine the existence of nitrate ions in the drinking water (fountain water) of a common household from the village of Dumbravita, Maramures County, Romania, as well as to determine the Romplumb S.A. wastewater ammonium ion. A Hanna Instruments photo colorimeter for boilers and cooling cannons was used in order to determine the nitrate ions concentration, which is a compact and versatile measuring device that can measure absorption and pH/mV, as well as a HR Hanna Nitrite photometer. Determining the ammonium ion was possible with the help of a multi parameter photo colorimeter, which employs the CAL Check function.*

In order to determine de nitrate ions concentration in the water samples, a photo colorimeter which employs the "Method selection", "Zero", "Read" and "Timers" functions was used. Using the "Nitrite LR" method, the device displays de nitrite-nitrogen (NO_2^- -N) concentration measured in $\mu\text{g/l}$, and by accessing the secondary functions using the Chem Frm key, the result can be converted in $\mu\text{g/l}$ of nitrite (NO_2^-) and sodium nitrate (NaNO_2).

Keywords: *Photometric analysis, drinking water, fountain water, nitrate ions, chemical analysis.*

THE ENVIRONMENTAL IMPACT OF THE CIZMA - BĂIUȚ FIELD EXPLOITATION AND THE IMPLICATIONS IN THE DEVELOPMENT OF OTHER PROJECTS DUE TO THE INCLUSION IN THE PROTECTED AREA

ADINA BUD

PhD student Eng. at University of Petrosani, Romania

Corresponding author's e-mail address: AdinaBud@upet.ro

Abstract: *The topic presented in the paper refers to two significant aspects regarding the impact of mining operations on the environment and the development of an alluvial mining project in the affected area. The mine waters that drain from the Cizma mining perimeter have an acidic character with a pH of 2.5 at the exit of the gallery with a load of heavy metals in ionic and precipitated form, discharging into a mountain stream, which later reaches in the area of some communities. The perimeter is located in a protected area, which encumbers exploitation projects in these areas.*

Keywords: *environmental impact, protected area, alluvial exploitation, mine waters*

MODELLING THE WASTE DISPOSAL DEPOSIT – (PART III)

DOREL GUSAT¹, IOAN BUD¹

*¹Technical University of Cluj-Napoca, North University Centre of Baia Mare,
Faculty of Engineering, Department of Mineral Resources, Material, Environment Engineering,
Romania*

Corresponding author's e-mail address: dorel.gusat@gmail.com

Abstract: This paper is part III and a continuation of the scientific research conducted on the modeling and simulation of the state of induced stresses on a municipal landfill. The properties of the proposed materials in the body of the warehouse and the stability calculations performed on them are presented.

Keywords: waste disposal, numerical simulation, FLAC 2D



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