

CENTRUL UNIVERSITAR NORD DIN BAI A MARE
Facultatea de Inginerie

*NORTH UNIVERSITY CENTRE OF BAI A MARE
Faculty of Engineering*

BULETIN ȘTIINȚIFIC

AL CENTRULUI UNIVERSITAR NORD DIN BAI A MARE

SERIA D

Exploatări Miniere

Prepararea Substanțelor Minerale Utile

Metalurgie Neferoasă

Geologie și Ingineria Mediului

Volumul XXXII Nr. 2

Indexat ProQuest, EBSCO, ERIH PLUS

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Series D

Mining

Mineral Processing

Non-ferrous Metallurgy

Geology and Environmental Engineering

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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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1. Papers must be written in English, Microsoft Word and will not exceed 12 pages.
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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SOME APPEARANCE ON PENETRANT LIQUID TESTING OF THE HIGH STRENGTH ALUMINUM ALLOYS DEFECTS

HOTEA VASILE¹

*¹Technical University of Cluj Napoca – North University Center of Baia Mare, Victor Babeş street, no. 62/A,
430083, Baia Mare*

Email: vasilehotea50@yahoo.com

Abstract: *In this work, some aspects of nondestructive testing methods has been highlighted out, from need to better understand the surface defects in the casting process of high strength aluminum alloy semifinished products used in aeronautical technique and how to apply the methods of nondestructive in general and, in particular, the method of penetrant liquid testing.*

Keywords: *non-destructive techniques, surface defects, penetrating liquids*

**GEOLOGICAL MEMORY OF STARUNJA – AS THE COURSE OF PROTECTION OF
THE WORLD NATURAL HERITAGE IN CARPATHIAN REGION OF UKRAINE**

***OLEG ADAMENKO, YAROSLAV ADAMENKO,
KATERYNA RADLOVSKA***

Ivano-Frankivsk National Technical University of Oil and Gas, Ukraine

Abstract: *Paleontological location of the Pleistocene fauna of hairy rhinos and mammoths near the village. Starunya Bogorodchany district of Ivano-Frankivsk region (Prykarpathian, Ukraine) is considered as a paleoclimatic rapter of global changes and a stratigraphic "bridge" linking stratigraphic patterns of the Upper Pleistocene of Western Europe and the plain territory of Ukraine. This is important for the reconstruction of global climate change and the transformation of natural and man-made geosystems.*

Keywords: *Upper Pleistocene, shaggy rhino, mammoth, tundra, natural-man-made geosystems, paleoclimate.*

THE ENVIRONMENTAL IMPACT OF ANDESITE EXPLOITATION IN PROTECTED AREAS

IOAN BUD, DOREL GUSAT, SIMONA DUMA, IOSIF PASCA

¹*Technical University of Cluj Napoca – North University Center of Baia Mare, Victor Babeş street, no. 62/A,
430083, Baia Mare*

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

Abstract: *Romania has the potential for mineral resources but lacks a coherent exploitation and valorisation strategy and at the same time a legislation that supports the strategy.*

The fundamental principle of the Mines Act is to stimulate the valorisation of mineral resources, public ownership of the state, and to ensure fair competition. The paper analyzes the impact of non-observance of these principles through the development of illegal exploitation, even worse in protected areas.

Key words: *illegal exploitation, cracked andesites, environmental impact, legislation*

THE EVOLUTION OF GREENHOUSE GASES IN THE COUNTY OF MARAMUREȘ BETWEEN 2006 AND 2015

GABRIELA MARIA FILIP¹, VALERIA MIRELA BREZOCZKI¹

*Technical University of Cluj-Napoca, North University Centre at Baia Mare, Faculty of
Engineering, Department of Mineral Resources, Material, Environment Engineering, Dr. Victor
Babes Street, Romania*

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

Abstract: *Global warming and climate change represent the most important problems of society. These are mainly caused by air pollution and the increase of greenhouse gases.*

This paper presents a synthetic analysis of the evolution of greenhouse gases in the county of Maramureș over a period of 10 years, between 2006 and 2015, based on the data taken from the Environmental Protection Agency Maramureș, regarding the main greenhouse gases at county level, as well as the emission sources and their effects.

Keywords: *greenhouse gases, emission sources, global warming, climate change*

IMPLICATIONS OF PHILATELY IN PROMOTING THE PROTECTED NATURAL AREAS (II): "PEȚEA CREEK" NATURAL RESERVATION

**ALEXANDRU-LEONARD POP¹, YAROSLAV ADAMENKO², BOGDAN CIORUȚA¹,
MIRELA COMAN³**

¹*North University Centre of Baia Mare - Technical University of Cluj-Napoca,
Office of Information and Communication, str. Victor Babeș, nr. 62A, 430083, Baia Mare
alexandru.pop@staff.utcluj.ro - bogdan.cioruta@staff.utcluj.ro*

²*Ivano-Frankivsk National Technical University of Oil and Gas, Ukraine*

³*North University Centre of Baia Mare - Technical University of Cluj-Napoca,
Faculty of Engineering, str. Victor Babeș, nr. 62A, 430083, Baia Mare
comanmirela2000@yahoo.com*

Abstract: *We define and accept natural heritage as being the ensemble of components and physical-geographical structures, floristic, faunistic and biocenotic of natural resources, of which importance and ecological value, economical, scientific, biogenetic, health, views, recreative and cultural-historic have relevant significance under the aspect of conserving biodiversity, of ecosystems functional integrity, genetical heritage conservation, vegetal and animal, and for life need satisfaction, wealth, culture and civilisation of present and future generations. Romania is a blessed place with many areas of unique beauty - as part of the natural heritage - with places where the spectacle of nature delights your eyes and breathtaking your every step. Constantly promoting philately themes that use natural wealth and beauty of our country as subjects, the administrative entity (with various names over time) responsible for issuing postage stamps performs a series of postage stamps in whose images are found rarities of flora and fauna, a miracle of nature. In this paper, we bring to discussion, among other things, the most significant philatelic peculiarities in the "Pețea Creek" Natural Reservation.*

Keywords: *natural heritage, protected areas, biodiversity, endangered species, "Pețea Creek" Natural Reservation*

FOAMING AGENT FOR ALLOYS OF ALUMINIUM FOAMS

JOZSEF JUHASZ, VASILE HOTEA

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

ABSTRACT: *The powder compact melting technique for aluminium foam production as practised today accepts a certain mismatch between foaming agent decomposition and matrix alloy melting temperatures. This mismatch is believed to influence the pore structure in an unfavourable way. Adjustment of TiH_2 decomposition as well as liquidus and solidus temperatures of matrix alloys can be used to counteract it. Effects of TiH_2 thermal are investigated using thermal analysis. TiH_2 variants gained via annealing treatments were used to produce aluminium foam precursor materials.*

Key words: *metal foams, foaming agent, temperature, time.*

STUDY OF THE QUALITY OF DRINKING WATER IN TÂRGU LĂPUȘ, MARAMURES, ROMANIA

VALERIA MIRELA BREZOCZKI¹, GABRIELA MARIA FILIP¹

Technical University of Cluj-Napoca, North University Centre at Baia Mare, Faculty of Engineering, Department of Mineral Resources, Material, Environment Engineering, Dr. Victor Babes Street, Romania

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

Abstract: *This paper presents the analysis of quality indicators for two subterranean water sources, Suciul and Râoaia catchments, in Târgu Lapus, which are meant for domestic use. The period during which water quality was monitored covers two months (January and May 2018); during this period the control analyses of water quality were carried out in the laboratory of the Baia Mare Purification Station.*

The paper contains certain data regarding the need for water and the system for distributing drinkable water to consumers, the description of catchments and the subterranean water treatment technology required for meeting the sanitary conditions for rendering water drinkable, as well as the analysis of physical, chemical and bacteriological indicators obtained, compared to the legislation in force.

The analysis of the results obtained highlighted a series of bacteriological indicators/parameters that were exceeded, as well as turbidity and hardness in the raw water from the subterranean catchments. The existence of colonies developed at 37 °C and 22°C in the raw water requires a chemical treatment of this water with the aim of disinfecting it. The parameters of the thus rendered drinkable water match the values accepted through the legislation in force, the water being distributed to consumers through the Drinkable water distribution system in Târgu Lăpuș.

Keywords: *subterranean waters, catchments, water disinfection*

WOOD-MAIN USED MATERIAL IN BUILDING “ECOLOGICAL” VS. “MODERN” HOUSES

CARMEN MICLE

*North University Centre of Baia Mare - Technical University of Cluj-Napoca,
Faculty of Engineering, 62A Victor Babeş str., 430083, Baia Mare
carmen.micle@yahoo.com*

Abstract: *From the oldest times, man has been using wood as prime material in building houses, as well as manufacturing tools needed around the house. Romanians, being strongly connected with the forests, they have been observing the way some wooden species are behaving to different stimulus and so being able to choose the species with the highest resistance from the durability, physic -mechanic characteristics, visual aspect and industrial prime matter points of view. An “ecological” house, for a simple man, represents the manual handcrafting of the wood and also using it in various domains such as building shelters, tools and other useful items that are a day by day necessity around the house. A “modern” house is an upgrade of what massive wood has meant in construction, tools and objects are using new crafting and finishing techniques, which are well superior to those already known by elder people. The construction of a "modern" house also involves the use of new materials that can meet people’s needs; and so the used wood proportion is decreasing, placing itself in a secondary plan and increasingly used in combination with other materials. The environment has been, is and will always be a witness of all civilizations and everything that means evolution and modernization, knowledge and development; the forests, , in our opinion, always occupying the most precious place in human life.*

Keywords: *“ecological” house, “modern” house, wood.*

TEXTILES COLOURED WITH NATURAL DYES OF VEGETAL ORIGIN

CRISTINA DOLCA

*Technical University of Cluj-Napoca, North University Centre of Baia Mare
430083, Victor Babeş street, nr.62A, Baia Mare, Maramureş, România
cristina_dolca@yahoo.com*

Abstract: *Spontaneous flora offers a wide variety of plants with different types of tinctures, which can be used to obtain pleasing, harmonious, non-reproducible, wash-resistant and light-resistant colors. In each plant we find one or more pigments, from roots, grains, stems, twigs, flowers, fruits or wood. The colorant is extracted using various methods, from fresh or dried plants.*

The natural dye is fixed on the fibers by treating in different phases of the dyeing process with a mordant, resulting in a "resistant" and insoluble "varnish". During millenia, the human eye has discovered, through an empirical work, other means of dyeing textiles, finding natural sources of dyeing materials in plants, molluscs and insects.

Painting natural fiber textiles with plant-based dyes is not complicated but requires patience in obtaining dye, patience that is rewarded with a variety of vivid, warm, persistent, incomparable palette of colors that are in harmony with each other!

Key words: *tinctorial plants, dye extraction, painting techniques.*

AIRPLANE - TYPE HOUSE-CASE STUDY

JAMES MOCIRAN

*Technical University of Cluj Napoca, North University Center of Baia Mare,
430083, Victor Babeş street, nr.62A, Baia Mare, Maramureş, România
mociranjames@outlook.com*

Abstract: *This article main purpose is bringing some unconventional houses in the spotlight. We're talking about the houses of some people who were able to see things differently from what is considered normal. We'll be talking about furnished houses built in smartly recycled old planes which were no longer functional. Joanne Ussery from Mississippi U.S.A. was the first person who came in the possession of such a plane in 1995; her purpose was to recondition/restore the plane and turn it into her new home. Joanne's idea was subsequently borrowed by other people such as a Costa-Rican entrepreneur and an electrical engineer from Oregon U.S.A. A plane is a large dimensions engineering construction, carefully built and assembled so they can offer complete safety when being used.*

Key words: Airplane; restore; recycling; ecological house, modern house



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