The recovery of gold from a copper rich Zimbabwean low-grade gold ore by cold stripping
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A facile co-precipitation approach for the synthesis of high-pure magnesium titanate using sea water bitterns and titanium tetrachloride
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The use of ultrasonic assisted extraction of lithium from Zimbabwean spodumene ore
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Vanadium extraction with the salt roast process and other novel liquids from a titanomagnetite vanadium ore
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An investigation into the breakdown of pyrite to release encapsulated gold in sulphide minerals using deep eutectic solvents
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Extraction of iron, titanium and vanadium from a titaniferrous ore
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Tantalum and tin extraction from virgin ore with ILs and DESs
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Leaching of metals from printed circuit boards by carboxylic acid-based deep eutectic solvents
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Investigating the leach kinetics of Glencore’s Cu-Co Ore in organic media
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Early lithium recovery: Sustainable strategies and innovative approaches for enhanced recycling of nmc batteries in electric vehicle technology
L.N. Mettke, Clausthal University of Technology, Germany

Enhancing nickel recovery: Advanced separation methods and anti-solvent crystallization for sustainable NMC battery recycling
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Data driven strategies to optimise hydrometallurgy plants – the power of visualization and machine learning in data mining
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The benefits of using Aachen™ high shear reactors in gold tailings reprocessing from laboratory and plant evaluations
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Evaluation of the nanofiltration membrane technology for copper removal from copper mine effluents stream
M. Ramabulana1, O. Baziko1, and I.D.I. Ramaite2, Mintek and 3University of Venda, South Africa

Separation and recovery of cobalt and aluminium from spent gas to liquid catalysts using Cyanex272
M. Kruger, H.M. Krieg and D.J. van der Westhuizen, North-West University, South Africa

Removal of iron from vanadium electrolyte using ion exchange
M. Makonese and K.C. Sole, University of Pretoria, South Africa

Investigation on the synergetic behaviour of NMC-LFP black mass mixture for improved hydrometallurgical processing
M. Müller, Technical University of Clausthal, Germany

The hydrometallurgical processing of a low-grade manganese ore from the Northern Cape, South Africa
L. Mukumbi1, C. Saguru1, and C.J.N. Dempers1, 1CM Solutions and 2PRODEO Consulting, South Africa

Rare earth metal recovery from permanent magnet waste
T. Punt, K. Forsberg, and M. Svärd, KTH Royal Institute of Technology, Sweden

Leaching of a copper-nickel flotation concentrate in choline chloride based deep eutectic solvents
B.T. Kalake1,2, S. Ndlovu1, and M.M. Mapolelo2, 1University of the Witwatersrand, South Africa and 2Botswana Institute of Technology, Botswana

The free-ligand model to describe and design cobalt extraction and nickel scrubbing in a base metal refinery
M.J. Matsela1, O.S.L. Bruinsma2, and D.J. van der Westhuizen1, 1North-West University and 2Bruinsma Solutions (Pty) Ltd, South Africa

Evaluation of a chemical pre-treatment alternative for PGM extraction from flotation tailings
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ABSTRACTS RECEIVED

Cobalt extraction from manganese and nickel metal ions using novel extractants
N. Matinise, C. Ineza, and R.C. Luckay, Stellenbosch University, South Africa

Extraction of gold from tailings using deep eutectic solvent
M.J. Khuduwé and S. Ndlovu, University of the Witwatersrand, South Africa

Crystallization of battery grade vanadyl Sulphate from Bayer liquor
C. Mangunda, M. Svárd, and K. Forsberg, KTH Royal Institute of Technology, Sweden

Enhancing selective lithium recovery: Testing and modelling ion exchange resins for efficient purification
A. van Niekerk1, O.S.L. Bruinsma2, F. van der Merwe1, and D.J. van der Westhuizen1, 1North-West University and 2Bruinsma Solutions (Pty) Ltd, South Africa

Innovations in Lithium Ion Battery Materials: From Industrial Source to Battery-Grade Li2CO3
R.G. Blenkers, H’IJ Bijzet, O.S.L. Bruinsma, and D.J. van der Westhuizen, 1North-West University and 2Bruinsma Solutions (Pty) Ltd, South Africa

Platinum, palladium, and rhodium recovery from acidic chloride solutions using chelating ion exchange resin Puromet MTS8600
M. Hosseinizadeh and J. Petersen, University of Cape Town, South Africa

Estimation of mass transfer characteristics in multiple flow regimes of various static mixers during Co/Ni solvent extraction
J.W. Bezuidenout and D.J. van der Westhuizen, North-West University, South Africa

The selective recovery of Li from lithium-ion batteries using solvent extraction and precipitation
S. Roopa, H.M. Krieg, and D.J. van der Westhuizen, North-West University, South Africa

Evaluation of solvent swelling pre-treatment for copper recovery from waste printed circuit boards
T.D. Kando, University of Cape Town, South Africa

A baseline study of the ammonia leaching of a sphalerite concentrate
S. Shabalala and J. Petersen, University of Cape Town, South Africa

Upscaling gallium extraction from Bayer liquor during aluminium production
E. Balomenos1,2,3, D. Marinos1, D. Paniás1, P. Davis1, C. Dittrich1, R. Scharfenberg1, P. Feydi2, K. Forsberg2, C. Mangunda1, S. Mullen2, K. Papadimitriou1, A. Kladis3, A. Prebeniou1, B. Orberger1, and H. van der Laan4, 1MYTILINEOS Energy & Metals, Ag. Nikolas Plant, Greece, 2National Technical University, Greece, 3HEAB Chemie Technik, Germany, 4ORANO Mining, France, 5KTH, Sweden, 6VITO Flemish Institute for Technological Research, Belgium, 7Admiris, Greece, 8Catura Geoprojects, France, and 9Van der Laan International, The Netherlands

High-grade scandium hydroxide production for the European market
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Transition elements, silver and tantalum sustainable recycling from waste of tantalum capacitors
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Flowsheet synthesis and analysis of copper and gold recovery from waste printed circuit boards
A. de Wet and J. Petersen, University of Cape Town, South Africa

Key considerations for the dissolution of metals and alloys in the production of battery grade metal sulphates
J. Jang, T. Plikas, A. Khera, U. Shah, S. Armistead, and S. Bedrossian, 1Aveiro, Portugal and 2University of Cape Town, South Africa

Precipitation of chromium from ferrochrome leach solutions
T.V. Nyangadzayi and F. Ntuli, Botswana international University of Science and Technology, Botswana

Life cycle assessment of hydrometallurgical lithium-ion battery recycling processes – evaluating geographical location sensitivity
R.F. Maritz, G. Akdogan, and C. Dorfling, Stellenbosch University, South Africa

Comparing the recovery of rare earth elements from ion-adsorption clay leach solutions using various precipitants
J. Chivava, J. Petersen and A.E. Lewis, University of Cape Town, South Africa
ABSTRACTS RECEIVED

Electrophoretic responses toward a selective predictive foam floatation from leachate in different surfactants
G. Kasembele, E.N. Malenga, and M.E. Makhatha, University of Johannesburg, South Africa

Complexing leaching of oxidized copper-cobalt ore in an alkaline medium
E.N. Malenga, A.F. Mulaba-Bafubiandi, and W. Nhetal, 1, University of Johannesburg, South Africa and 2University of Mbuj-Mayi, Congo

Implementation of an oxidative solvoleaching to recover copper from a sulfide ore characterized by a high silica content
R. Kishiko, E.N. Malenga, and W. Nhetal, University of Johannesburg, South Africa

Selective dissolution of Pd, Pt, and Rh from metallic mixtures: A sustainable resource recovery approach
S. Jeong Song, X.C. Goso, Thandazile Moyo-Mahlangu, Pennsylvania State University, USA

Phase transformations during extraction of vanadium and titanium from titaniferous slag using a roast-leach process
S. Nkosi, X.C. Goso, T. Mokone, and J. Petersen, 1Mintek and 2University of Cape Town, South Africa

A review of the vanadium primary production process chemistry
X.C. Goso, C. Grobler, O. Bazhko, S.B.N. Nkosi, G.M. Tawane, and F. Jantjies, 1Mintek and 2X-Group, South Africa

Hydrometallurgical extraction of rhenium from molybdenite roasting dust
M. HosseinZadeh, J. Petersen, M. Ranjarb, and M. Alizadeh, 1University of Cape Town, South Africa 2Shahid Bahonar University of Kerman, Iran, 3Materials and Energy Research Center, Iran and 4Isfahan University of Technology, Iran

Ammonium thiosulfate leaching of gold from electronic printed circuit boards – effect of solution copper concentration
D. Maharaj, T. Moyo, and J. Petersen, 1University of Cape Town, South Africa and 2Penn State University, USA

The importance of hydrodynamics in the heap leaching of low grade ores
S.W. Robertson, Mintek, South Africa

Artificial Neural Networks (ANN) for optimisation and prediction of chromite roast leaching to produce Sodium dichromate
M.J. Mvita, N.G. Zulu, and B. Thethwayo, University of Johannesburg, South Africa

Surface changes in the dissolution of chalcopyrite in different media
M. Gonte, Thandazile Maya-Mahlangu, Pennsylvania State University, USA

Metalate anion extraction for separation of cobalt(II) from nickel(II) and manganese(II)
K. Oosthuizen, Stellenbosch University, South Africa

The use of amino acids in the leaching of gold; gold leaching and electrochemical approach
A. Tapfuma, M. Tadie, and G. Akdogan, Stellenbosch University, South Africa

Lithium recovery from montmorillonite clays by sulphate roasting and water leaching
C. Haller and C. Dorfling, Stellenbosch University, South Africa

Innovative membrane separation processes in Hydrometallurgy
T. Coetzee, Memcon, South Africa

Optimizing biogenic cyanide production for enhanced bio-recovery of precious metals using mine indigenous microorganisms
A. Kumar, A. Shemi, L. Chipise, S. Moodley, C.S. Yah, G.S. Simate, and S. Ndlovu, University of the Witwatersrand, South Africa

The contribution of non-ideality in deep eutectic solvents towards their application in lanthanide separation
N. Schaeffer, U.G. Favero, M.C. Hespanhol, and J.A.P. Cotingho, 1University of Aveiro, Portugal, 2Federal University of Viçosa, Brazil and 3University of Porto, Portugal

Oxalic acid cleaning of aluminum dross for a sustainable recycling
M.M. Kalenga and A.F. Mulaba-Bafubiandi, 1University of Johannesburg, South Africa and 2University of Mbuj-Mayi, Congo

Cyanide destruction in gold mining effluents through a photocatalysis process
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Investigation and optimization of leaching parameters for rare earth element extraction from south african coal fly ash
H.S. Beyers, J. Bunt, and D.J. van der Westhuizen, North-West University, South Africa

Gas phase extraction of vanadium from ore
J.H. Potgieter and L. Mokwena, 1The University of the Witwatersrand, South Africa and 2Manchester Metropolitan University, United Kingdom

Kinetic study of tantalum extraction using beta-diketones
S. Babaei, Y. Isa, L. Chuma, and J.H. Potgieter, 1University of the Witwatersrand, South Africa and 2Manchester Metropolitan University, UK

Sustainable magnesium production from metallurgical residues
D. Runciman, M. Dey, C. Dittrich, E. Peters, M. Dreiseitel, A. Rupnik, B. Likozar, D. Skentzou, K. Sakkas, H. van der Laan, B. Orberger, and C. Mangunda, 1Mures Magnesium (MMg), Romania, 2MEAB Chemie Technik, Germany, 3F&R Worldwide SRL, Romania, 4National Institute of Chemistry of Slovenia, Slovenia, 5SEC, Greece, 6Van der Laan International Consultancy B.V, The Netherlands, 7Catura Geoprojects, France and 8KTH, Stockholm, Sweden
Feasibility study of construction and demolition waste to sequestrate carbon dioxide through direct aqueous mineral carbon capture
K. Ramasenya1,2, J. Petersen2, V.N. Katambwe1, B. Dladipo1, S. Gcasamba1, V. Vadapalli1, H. Coetze1, S. Zide1, H.J. Ho3, A. Iizuka3, A. Horvat1, L. Petrik3, and T.V. Ojumu3
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Predictive geometallurgy: Circular and eco-friendly recovery of gold in the Witwatersrand Goldfields (South Africa)
X.C. Simelane, S. Ndlovu, and G.T. Nwaila, University of the Witwatersrand, South Africa

Comparison of sulphate and chloride media for leaching of copper from waste printed circuit boards (WPCBs)
N. Nxumalo, Mintek, South Africa

Impact of the alkali pretreatment and microwave on the dissolution mechanism of Fe from gold-bearing calcined minerals
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Investigation of the impact of microwave on the dissolution mechanism of Fe from gold-bearing calcined ore
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Optimising critical raw material recovery: A machine learning approach to metal accounting in mining
T. Mombe1, G.T. Nwaila1, and S.E. Zhang2, 1University of the Witwatersrand, South Africa, and 2Geological Survey of Canada, Canada

Optimization of operational parameters for uranium leaching at South Uranium plant to respond to challenging economic conditions and mineralogy of uranium ores
D.W. Manana and R.E.L. Pobe, Harmony Gold Mining Company, South Africa

Incorporation of impurities during eutectic freeze crystallization for li-ion battery recycling
M. Akbarkermani, M. Svärd, and K. Forsberg, KTH Royal Institute of Technology, Sweden

Recovery of copper and gold from waste mobile phones printed circuit boards using delamination pre-processing and a simple hydrometallurgy route
S. Fashu, University of KwaZulu-Natal, South Africa

Enhancing rare earth element leaching efficiency through pretreatment of phosphogypsum
S.S. Nkabinde, Mintek, South Africa

Investigating early-stage process flow and reactor sequencing to maximise gold extraction in the thioulate leaching of waste printed circuit boards
M.G. Gonte1, T. Mahlangu-Moyo1, and J. Petersen2, 1The Pennsylvania State University, USA, and 2University of Cape Town, South Africa

IDC participation in mineral beneficiation and battery value chain
I. Tlhako, IDC, South Africa

Flowsheet design and improvements in solvent extraction modeling using cyanex reagents
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Benefits of GTL G80 mining diluent in copper SX for low- and high-grade ores
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Hydrometallurgy capacity and technology development for recycling of lithium-ion batteries
M. Lynch, Enabled Future Limited, United Kingdom