

LIST OF PAPERS

Note: Plenary, Keynote and invited special presentations that did not have a full paper are not included in the Proceedings

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J. S. Laskowski, University of British Columbia

S. Castro, University of Concepción



Paper No.: 9690

The Effect of Non-Polar Oil on Batch Flotation of Fine Hematite and Quartz Using Sodium Oleate or Hydroxamic Acids as Collectors

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Mingxia Liu, University of Alberta and Central South University

Qi Liu, Chemical and Materials Engineering, University of Alberta



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A. M. L. Cushing, A. Ghahreman, and S. Kelebek, Queen's University



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Caglar Tukul, Izmir Metropolitan Municipality

Sadan Kelebek, Queen's University



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Flotation of a High-Grade Free-Milling Gold Ore Using Xanthate and Carboxylic Acids as Collectors

T. C. H. Richards, Wolf Minerals Limited

E. Koss, Gekko Systems

U. Demir, Dumlupinar University

S. Kelebek, Queen's University



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A New Particle-Bubble Attachment Timer as a Quick Diagnostic Tool for Mineral Floatability Testing

Markus Aspöckl, Nóra Schreithofer, and Rodrigo Serna, Aalto University



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Wei Wang, University of British Columbia and China University of Mining and Technology

Amit Kumar and Maria E. Holuszko, University of British Columbia

Maria D. Mastalerz, Indiana Geological Survey, Indiana University



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An Evaluation of the Application of X-Ray Microscopy in Understanding Gold Losses in Tailings

Shaun Graham, Carl Zeiss Microscopy

Chris Brough, Petrolab Limited



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Comparison of Enhancement of Mineral Liberation by HPGR, Microwave, and Electrical Disintegration on Copper Ore

Ryo Kawarabuki, Masato Kosugi, J. V. Satur, K. Mitsuhashi, and M. Kawata, Nittetsu Mining Co., Ltd.
Yoshiaki Kon, B. Calabia, and T. Takagi, National Institute for Advanced Industrial Science and Technology
Kengo Horiuchi and Chiharu Tokoro, Waseda University
Yusuke Iwazaki, G. Dodbiba, K. Okaya, and Toyohisa Fujita, The University of Tokyo



Paper No.: 9754

Analysis of Variables Governing the Operation of a Vertical Stirred Mill

Baker Francis Giyani and Bern Klein, University of British Columbia
David Rahal, FLSmidth



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Investigation on the Energy Distribution of Electrical Disintegration

Shuji Owada, Sho Terada, and Taiki Senga, Waseda University
Takao Namihira, Kumamoto University



SESSION: COLLOIDAL INTERACTIONS KEYNOTE, GEOMETALLURGY

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Incorporation of Geometallurgical Modelling into Long-Term Production Planning

Alessandro Navarra, Universidad Católica del Norte
Tassos Grammatikopoulos, SGS Canada Inc.
Kristian Waters, McGill University



Paper No.: 9537

Geometallurgical Modelling for Grinding Media Consumption Based on Advanced Mineral Characterization Techniques

Eduardo Díaz, Leandro Voisin, and Willy Kracht, Universidad de Chile
Victor Montenegro, Commonwealth Scientific and Industrial Research Organisation (CSIRO)



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Faster Analysis: Recent Advances in Geoscan On-Belt Analysis Techniques Allowing for Rapid Real-Time Measurement of Minerals

Luke Balzan, Andrew Harris, and Zoran Bauk, Scantech International Pty Ltd.



Paper No.: 9378

UltraGold: Real-Time Gold-in-Slurry Analysis with 100 ppb Accuracy

Yves Van Haarlem, Commonwealth Scientific and Industrial Research Organisation (CSIRO)



Paper No.: 9361

Suitability of On-Belt Elemental Analysis for Real-Time Ore Quality Measurement and Bulk Sorting

Henry Kurth, Scantech International Pty Ltd.



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Technical Review and Evaluation of Ore Sorting Technologies on Precious Metals Operations

Brent Hilscher, Preetham Nayak, Leo Lorio, and Nawoong Yoon, Sacré-Davey Engineering



Paper No.: 9722

Ore Sorting of Low-Grade Gold Sulphide Deposits

L. von Ketelhodt, STEINERT US Inc.
L. Kotelo and N. Schmalbein, STEINERT Elektromagnetbau GmbH



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Liberation Modelling Based on Comminution of Tungsten Ore Using Mineral Liberation Analysis

Sarbast Hamid, Pura Alfonso, Eduard Guasch, Hernan Anticoi, Josep Oliva, and Teresa Escobet, Universitat Politècnica de Catalunya BarcelonaTech



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Analysis of Particle Size Distribution in Dump Leaching Using Aerial Image Analysis and Verification by Rock Blasting Models

Shuo Zhang and Wenyang Liu, University of British Columbia



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New Innovations for Dewatering Using Teepee™ Panels on Vibrating Screens

Anthony Yell, Tema Isenmann Inc.



ADVANCES IN MATERIALS MANUFACTURING

SESSION: MATERIALS MANUFACTURING I

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Microstructural Evolution of a Ni-Based Alloy Overlay on a 2.25Cr-1Mo Steel during Thermal Ageing

Hassan Saghaififar, Graham McCartney, and Philip Shipway, The University of Nottingham



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Study on the Fabrication Process of Advanced Radiation Resistant Oxide Dispersion Strengthened Steel Tube

Tae Kyu Kim, Sanghoon Noh, Suk Hoon Kang, Ki Baik Kim, and Ga Eon Kim, Korea Atomic Energy Research Institute



Paper No.: 9631

Application of Confocal Scanning Laser Microscopy for Improving Steel Cleanliness

Keyan Miao, Alyssa Haas, Mukesh Sharma, Wangzhong Mu, and Neslihan Dogan, McMaster University



SESSION: MATERIALS MANUFACTURING II

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Friction-Stir Processing of an Al-Mg-Graphene Nanocomposite

Farzad Khodabakhshi, Shiraz University; Adrian P. Gerlich, University of Waterloo



SESSION: MATERIALS MANUFACTURING III

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Suppression of Internal Defects in Cold Drawing of Pure Magnesium Wire

Haruka Takeura and Kazunari Yoshida, Tokai University
Tomoaki Murata and Masato Adachi, Nitto Seiko Co., Ltd.



Paper No.: 9592

Fabrication and Evaluation of a Fine Tube by Fluid-Mandrel Drawing

Shintaro Takamiya and Kazunari Yoshida, Tokai University



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Laser Additive Repair of AA7075 Using Al-12Si Powder

X. Cao, P. Wanjara, N. Penvern, J. Gholipour, and R. Amos, National Research Council Canada
K. Chiu, Royal Canadian Air Force



Paper No.: 9512

Analysis of Brazing Effect on Hot Corrosion Behavior of a Nickel-Based Aerospace Superalloy

Niyousha Esmaeili and Olanrewaju Ojo, University of Manitoba



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Consolidation of Ti And TiAl Using Spark Plasma Sintering Technology
Hung-Wei Liu, D. Paul Bishop, and Kevin Plucknett, Dalhousie University



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Evolution of Dispersoids and Elevated-Temperature Properties during Two-Step Heat Treatments in Al-Mn-Mg 3004 Alloys
Kun Liu, Hezhaye Ma, and X. -Grant Chen, Université du Québec à Chicoutimi



SESSION: MATERIALS MANUFACTURING V

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Dependence of Crystallographic Orientation on Pitting Corrosion Behavior of Ni-Fe-Cr Alloy 028
Lina Zhang, University of Manitoba
Jerzy A. Szpunar, University of Saskatchewan
Jianxin Dong, University of Science and Technology Beijing
Olanrewaju Ojo, University of Manitoba
Xu Wang, University of Saskatchewan



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Microstructure and Wear Behavior of Remelted Stellite 6 Claddings
Manjit Singh, Karanvir Singh Ghuman, and Sandeep Singh Sandhu, Quest Group of Institutions



Paper No.: 9416

Hybrid/Tandem Laser-Arc Welding of 25-mm Thick 415 Stainless Steel Plates in a Narrow-Gap Groove Configuration
Fateme Mirakhorli, École de Technologie Supérieure and National Research Council Canada
Xinjin Cao, National Research Council Canada
Tan Pham, École de Technologie Supérieure
Priti Wanjara, National Research Council Canada
Jean-Luc Fihey, École de Technologie Supérieure



CORROSION AND ENVIRONMENTAL DEGRADATION OF MATERIALS

SESSION: CORROSION

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Stress Corrosion Cracking of X80 Pipeline Steel in Fuel Grade Ethanol
X. Pang, Y. Zeng, M. Arafin, and C. Shi, CanmetMATERIALS, Natural Resources Canada



Paper No.: 9664

Effect of Water Vapour Partial Pressure on the Chromia (Cr₂O₃)-Based Scale Stability
Shooka Mahboubi, Gianluigi A. Botton, Hatem S. Zurob, and Joey R. Kish, McMaster University



Paper No.: 9531

An Investigation into Environmental Effects on Slurry Abrasion Behaviour of Several Metallic Materials
Sheng-Hui Wang and Jiaren Jiang, National Research Council Canada



Paper No.: 9585

The Aqueous Corrosion Response of High Performance Cermets
Kevin Plucknett and Zhila Memarrashidi, Dalhousie University



Paper No.: 9469

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Ladan Khaksar and John Shirokoff, Memorial University of Newfoundland



Paper No.: 9597

Solute Effect on Hydrogen Embrittlement at Sigma 9 Grain Boundary In Nickel
Xiao Zhou and Jun Song, McGill University



Paper No.: 9583

Microstructural Analysis of Fracture Mechanism of Heat-Affected Zone of Two X70 Pipeline Steel Weldments by EBSD

Yiyu Wang, University of Alberta
Dong-Yeob Park, CanmetMATERIALS, Natural Resources Canada
Leijun Li, University of Alberta



Paper No.: 9640

Temper Embrittlement in Hot-Dip Galvanized Steel Platform Structures

Christopher DiGiovanni, Leijun Li, and Robert Driver, University of Alberta
Logan Callele, Waiward Steel LLP



Paper No.: 9576

Proactive Corrosion Management and Monitoring Techniques to Improve Operations and Maintenance Strategies

Brycklin Wilson, Afshin Sadri, and Wai Lai Ying, Hatch Ltd.
Zoe Coull, Ice Dragon Corrosion



Paper No.: 9678

Corrosion Mechanisms of Underground Industrial Equipment

Nicolas Geoffroy and Isabelle Murray, CEP Forensic



Paper No.: 9606

Geochemical and Groundwater Factors Contributing to the Corrosion of Rock and Cable Bolts – An Experimental Study

Patrick Moore, Wendy Timms, Hamed Lamei Ramandi, Honghao Chen, Saisai Wu, and Serkan Saydam, UNSW Sydney



ENERGY AND ECO-EFFICIENCY IN MINING AND PROCESSING

SESSION: ENERGY AND ECO-EFFICIENCY; DISCUSSION

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Integrated Mining and Processing Systems Design for Eco-Efficiency

Laurie Reemeyer, Resourceful Paths



Paper No.: 9587

KEYNOTE: Energy Use, Conservation, and Eco-Efficiency Considerations in the Primary Copper Industry

Krishna Parameswaran, tfgMM Strategic Consulting



Paper No.: 9440

The Future Shape of Mineral Processing

Mick Bunyard and Ivan Mullany, Hatch Ltd.



SESSION: ENERGY

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Understanding Electrical Energy Use at Copper Smelters

Lauri Pesonen, Outotec



Paper No.: 9514

Energy Benchmarking of Slurry Pump Systems Using the New Concept of Benchmark Energy Factor (BEF)

Behnam Pirouz, Sadegh Javadi, and Paul Slatter, ATC Williams Australia
Markus Zeller, BC Hydro Canada
Laura Contasti, CSA Group Canada
Constantin D. Pitis, Powertech Labs Inc.



Paper No.: 9642

Recent Developments in Dry Atomization and Heat Recovery

D. Sauter, S. Faucher, L. C. So, and S. Mostaghel, Hatch Ltd.
S. K. Lee and S.-Y. Oh, Ecomaister Co., Ltd.



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Ventilation Cost Savings Using Localized Haul Truck Power Reduction
Darryl Witow and Chris McGuire, Hatch Ltd.



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The Technology of CO₂ Sequestration by Mineral Carbonation: Current Status and Future Prospects
F. Wang and D. B. Dreisinger, University of British Columbia
M. Jarvis and T. Hitchins, Hard Creek Nickel Corporation



SESSION: WATER

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Achieving Sub-ppb End-of-Pipe Selenium Targets and Stable Solids Residues Using Selen-IX™: Combining Ion Exchange and Electro-Reduction
Farzad Mohamm, David Kratochvil, and Patrick Littlejohn, BQE Water Inc.



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New Approach to Selenate Removal by Ion Exchange Methodology with a Review of Ion Exchange Materials and Chelating Exchangers
Maryam Rasouli and David Dreisinger, University of British Columbia



Paper No.: 9487

Management of Nitrogen Compounds in Mine Wastewater: Comparing Selective Adsorption and Electro-Oxidation to Other Treatment Methods
D. Kratochvil, F. Mohamm, C. Xiao, A. Borsoi, and P. Littlejohn, BQE Water Inc.



Paper No.: 9408

Removal Properties of Boron from Wastewater Using Low-Crystalline Magnesium Oxide Synthesized by Low-Temperature Calcination
Hiroki Fukuda, Shungo Hobo, Giuseppe Granata, and Chiharu Tokoro, Waseda University
Yuichiro Toba and Masahiro Eguchi, Organo Corporation



SESSION: ARSENIC; WASTE MANAGEMENT

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Synthesis of Scorodite Coated In-situ with Hydrated Ferric Oxide and Its Leaching Stability
Zhihong Liu, and Pingchao Ke, Central South University



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Fe(III)-As(V) Precipitates Obtained from the Fe(II)-As(V)-SO₄²⁻-H₂O System and Their Leaching Stability
Pingchao Ke and Zhihong Liu, School of Metallurgy and Environment, Central South University



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Waste Management in the GolGohar Mining & Industrial Co. by Identifying and Extracting Industrial Minerals in Dry Tailings Mineral Processing Lines
M. Askari, Golgohar Mining and Industrial Co.
H. Nouranian, Materials and Energy Institute of Iran



GENERAL HYDROMETALLURGY

SESSION: COPPER HYDROMETALLURGY

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Use of Glycine as an Alternative Lixiviant to Leach Copper from Chalcopyrite
Doyun Shin, Junmo Ahn, and Jaeheon Lee, University of Arizona



Paper No.: 9432

Adsorption and Oxidation Properties of Activated Carbon and AF5 in the Copper Sulfide Minerals Leaching Process
Fazel Jahromi and Ahmad Ghahreman, Queen's University



Paper No.: 9589

Enhancement of Copper Extraction from Covellite by Mechanochemical Activation

Mitsuaki Matsuoka, Kansai University
Jia Chen, Kengo Horiuchi, Giuseppe Granata, and Chiharu Tokoro, Waseda University



Paper No.: 9675

Sulfate Leaching of Chalcopyrite: The Use of Potassium Iodide to Enhance the Dissolution of Copper

Giuseppe Granata, Chiharu Tokoro, and Akio Fuwa, Waseda University
Akira Miura, JX Nippon Mining and Metals Co. Ltd.



Paper No.: 9435

Quantification and Speciation of Copper, Arsenic, and Iron in Atmospheric Leaching of Enargite and Chalcopyrite in the Presence of AF5

Fazel Jahromi and Ahmad Ghahreman, Queen's University



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Hydrochloric Acid in Hydrometallurgy

Fathi Habashi, Laval University



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Hydrogen Mitigation in the McClean Lake Uranium Leaching Circuit

William McCombe, Laura Nightingale-Mercer, and Lyle Zunti, Hatch Ltd.
Martin Bernardin, Independent
Glen Remple, AREVA Resources Canada Inc.



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Inventory Predictive Control for Batch Process Production Regulation

Carole Prévost BBA Inc.
Roberto Pinto, Rio Tinto Fer et Titane
Vincent Leclerc and Michel Ruel, BBA Inc.



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Severe Service Valve Specifications for Hydrometallurgy Applications

Ross Waters, CGIS (CG Industrial Specialties)



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A New Perspective on Kinetics of Chalcocite Leaching

Mohsen Hashemzadeh, Valentina Concha Silva, and Wenyong Liu, University of British Columbia



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Lin Li and Ahmad Ghahreman, Queen's University



Paper No.: 9451

Electrochemical Kinetics of Ferric/Ferrous Reduction-Oxidation on Sphalerite

Saeid Karimi, University of Tehran and Queen's University
Ahmad Ghahreman and Fereshteh Rashchi, Queen's University; Javad Moghaddam, University of Zanjan



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Mohammad Nusheh, Anne-Helene Puichaud, and Chris Bumby, Victoria University of Wellington



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Inhyeok Choi, Gyeonghye Moon, Jin-Young Lee, and Jyothi Rajesh Kumar, Korea Institute of Geoscience and Mineral Resources (KIGAM)



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Brighty Dutta and David Dreisinger, University of British Columbia
Michael Moser, Solvay S.A.



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The Kinetics of Cerium(III) Oxidation with Different Oxidants
James McNeice and Ahmad Ghahreman, Queen's University



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Tatsuya Kato, Giuseppe Granata, and Chiharu Tokoro, Waseda University
Yuki Tsunazawa and Tetsuichi Takagi, National Institute of Advanced Industrial Science and Technology



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Ha Trinh, Rajiv Ranjan Srivastava, Jae-chun Lee, and Sookyong Kim, Korea University of Science and Technology and Korea Institute of Geoscience and Mineral Resources (KIGAM)



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Eric Shum and Vladimiro G. Papangelakis, University of Toronto



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Caterina Benigni, Christoph Pichler, and Juergen Antrekowitsch, Montanuniversitaet Leoben



LIGHT METAL ALLOYS: PROCESSING FOR PERFORMANCE

SESSION: LIGHT METAL ALLOYS

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Rodrigo V. Reyes and Leonardo Fernandes Gomes, Federal University of São Carlos
Rafael Kakitani, Amauri Garcia, and Noé Cheung, University of Campinas, José Spinelli Federal University of São Carlos



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Franziska Kroeger and Babette Tonn, Clausthal University of Technology



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Grain Boundary Fracture of Al-Mg Base Alloys Containing Traces of Sodium
K. Horikawa, S. Kitahata, and H. Kobayashi, Osaka University



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Analysis of Hydrogen-Based Pore Distribution in A356 and B206 Aluminum Alloys
Saibal Modak, University of British Columbia
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Steve Cockcroft and Daan Maijer, University of British Columbia



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Friction-Stir Processing of a Cold Spray Deposited Material
Farzad Khodabakhshi and Adrian P. Gerlich, University of Waterloo



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A Study of Rapidly Solidified Al-Cu Eutectic Droplets

Abdoul-Aziz Bogno and Jonas Vallotton, University of Alberta
Michel Rappaz, École Polytechnique Fédérale de Lausanne
Hani Henein, University of Alberta



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Assessment of the Impact of Water-Cooled Chill Technology on Microstructure Length-Scales in an A319 Engine Block Casting

Farzaneh Farhang Mehr, Steven Cockcroft, and Daan Majjer, University of British Columbia
Robert MacKay, Nemaq Engineering Center
Wade Marquardt, Highland Foundry Ltd.



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Jacob Kennedy and Joon-Hyuk Park, Institute Jean Lamour and Laboratory of Microstructure Studies and Mechanics of Materials (LEM3),
University of Lorraine and Laboratory of Excellence on Design of Alloy Metals for Low-Mass Structures (LabEx DAMAS)
Julien Zollinger and Dominique Daloz, Institute Jean Lamour, University of Lorraine and LabEx DAMAS
Emmanuel Bouzy, LEM3, University of Lorraine and LabEx DAMAS



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Development and Verification of Numerical Model for Diffusion of Nitrogen in Titanium Based on Finite Difference Method

Jixiang Xu, Steve Cockcroft, Daan Majjer, Lu Yao, and Ainul Akhtar, University of British Columbia



Paper No.: 9748

Study of Species Macro-Segregation in A356 Wheel Casting

P. Fan, University of British Columbia
A. B. Phillion, McMaster University
S. L. Cockcroft, D. Majjer, C. Reilly, and L. Yao, University of British Columbia



NICKEL-COBALT 2017 (4TH INTERNATIONAL CONFERENCE) - HYDROMETALLURGY OF NICKEL-COBALT

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Paper No.: 9584

Corefco Refinery – Review of Recent Operational Changes

Jim Dennett, Sherritt International Corporation
Darren Mayne, James Budac, and Paul Nawrocki, Sherritt Metals



Paper No.: 9425

Increasing Capacity of Nickel Product at Niihama Nickel Refinery

Hideaki Sato, Koji Sakamoto, Takao Ooishi, and Yoshiteru Sato, Niihama Nickel Refinery



Paper No.: 9667

Operation of a Direct Solvent Extraction Circuit at Boleo

Kyle Marte, Amec Foster Wheeler
Thomas Gamarano, Minera y Metalúrgica del Boleo, S.A. P.I. de C.V.
Keith Barnard, Commonwealth Scientific and Industrial Research Organisation (CSIRO) Mineral Resources



Paper No.: 9371

Non-Oxidative Nickel Leach Capacity Review Through Isothermal Modelling of Mineralogical and Chemical Concentration Profiles

Edmund Engelbrecht, Anglo American Platinum Limited



Paper No.: 9691

Stress in Full Deposit Electrowon Nickel

Karen Voogt, Johann Hendrik W. M. Brits, and Les Bryson, Anglo American Technical Solutions



SESSION: PROCESS DEVELOPMENT: LATERITES I

Paper No.: 9497

Recovery of Hematite from HPAL Residue of Laterite Ore

C. A. Ang, F. Zhang, and G. Azimi, University of Toronto



Paper No.: 9672

The Starved Acid Leaching Technology (SALT) for Nickel Recovery from Saprolites

D. Dreisinger and N. Waters, InCoR Technologies Limited



Paper No.: 9423

A Process Flowsheet for the Extraction of Scandium from NioCorp's Niobium / Scandium Elk Creek Deposit

Niels Verbaan, Ernesto Bourricaudy, Tassos Grammatikopoulos, and Mike Johnson, SGS Minerals Services

Eric Larochelle, SMH Process Innovation

Scott Honan, Kelton Smith, and Rick Sixberry, NioCorp Developments Ltd.



Paper No.: 9694

New Hydrometallurgical Process for Nickel Extraction from Limonite Ore

Gilsoo Han, Jaeyoung Lee, Sungkoo Jo, Changkyu Lee, Jin Gyun Park, ByongPil Lee, and Hyung Sub Eom, Research Institute of Industrial Science and Technology



Paper No.: 9752

New Nickel Value Chain from Laterite to Stainless Steel – Outotec Ferrochromenickel Process

L. Narhi and K. Haavanlammi, Outotec (Finland) Oy



Paper No.: 9526

Developments in the Hydrometallurgical Processing of Nickel Laterites

Dave Robinson, Robbie McDonald, and Wensheng Zhang, Commonwealth Scientific and Industrial Research Organisation (CSIRO) Mineral Resources
Fiona McCarthy, Direct Nickel Ltd.



SESSION: PROCESS DEVELOPMENT: SULFIDES

Paper No.: 9527

Fundamental Studies of Sulfides Pressure Oxidation

Robbie McDonald, Jian Li, and David Robinson, Commonwealth Scientific and Industrial Research Organisation (CSIRO) Mineral Resources



Paper No.: 9363

Regeneration of Ammonia and Hydrochloric Acid in the Outotec Nickel Chloride Leaching Process

Kaarlo Haavanlammi, Kari Valkama, Tuukka Kotiranta, and Petri Kobylin, Outotec (Finland) Oy



Paper No.: 9372

Nickel, Copper, and Total Precious Metal Recovery from Twin Metals Minnesota Concentrates Using the CESL Process

Keith Mayhew and Tannice McCoy, Teck Resources Limited

Glenn Barr and Charles Knilans, Twin Metals Minnesota LLC



Paper No.: 9379

A New Method for the Precipitation of Nickel and Cobalt

Paul Voigt and Mike Hourn, Glencore Technology



Paper No.: 9574

Novel Reagents for Iron and Sulfur Control in Medium-Temperature Leaching of Sulfide Concentrates

Baseer Abdul and Edouard Asselin, University of British Columbia



SESSION: HPAL OPERATIONS

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THPAL Plant Operation Progress and Improvement of Zinc Removal System

Takashi Miyamoto, Toru Amano, Keisuke Shibayama, and Munekazu Kawata, Taganito HPAL Nickel Corporation



Paper No.: 9496

Optimization of Acid Addition in High Pressure Acid Leaching at Ambatovy

Preston Holloway, Michael Collins, and Rod Holmwood, Sherritt International Corporation
Murray Faris, Ambatovy



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Successfully Adapting to Continuing Challenges at the Moa Joint Venture

Robert Ellenwood and Mike Chalkley, Sherritt Technologies
Scott McPherson and Wilkis Nicot, Moa Nickel S.A.



SESSION: HIGH PRESSURE EQUIPMENT

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Design of Pressure Hydrometallurgy Pilot Plants for the Nickel Industry

Paul Martin, Zeton Inc.



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Autoclave Gas Vent Flow Modeling that Illustrates the Effects of Water Injection

M. R. Mock, Caldera Engineering
I. Farr, Ian Farr Consulting
J. C. Robison, Caldera Engineering



SESSION: METALS SEPARATION AND RECOVERY I

Paper No.: 9353

Nickel and Copper Adsorption from Acidic Sulfate Medium by Ion Exchange

Mónica Jiménez Correa and Paula Aliprandini, University of São Paulo
Flávia Silvas, Vale Institute of Technology (ITV)
Jorge Alberto Soares Tenório, University of São Paulo
David Dreisinger, University of British Columbia
Denise Croce Romano Espinosa, University of São Paulo



Paper No.: 9575

The Effect of Extractant Mixture during Solvent Extraction of Cobalt from a Synthetic Nickel Laterite Leach Solution

Paula Aliprandini, Mónica Jiménez Correa, Jorge Alberto Soares Tenório, and Denise Croce Romano Espinosa, University of São Paulo



Paper No.: 9389

Effect of Polymer Additives on Nickel Reduction by Hydrogen

Shinichi Heguri, Yoshitomo Ozaki, Masaki Imamura, and Atsushi Idegami, Sumitomo Metal Mining Co., Ltd.



Paper No.: 9390

Advances in Modeling CYANEX® 272 Solvent Extraction Circuits and the Application to Circuit Design

William Szolga, Laurent Cohen, Michael Moser, and Matthew Soderstrom, Solvay USA



SESSION: PROCESS DEVELOPMENT: LATERITES II

Paper No.: 9732

Investigation of Caustic Calcined Magnesium Oxide Produced from Seawater for Hydrometallurgical Applications in Cobalt and Nickel Extraction Processes

A. McEneaney, Premier Periclase Ltd.
E. Feichtenhofer and C. Piribauer, RHI AG



Paper No.: 9472

Leaching Behaviour of a Colombian Nickel Laterite in Aqueous Alkaline Glycine Solutions

Adriana Garcés, Universidad Nacional de Colombia
Gretchen T. Lapidus, Universidad Autónoma Metropolitana
Oscar Jaime Restrepo, Universidad Nacional de Colombia



Paper No.: 9670

Leaching Characteristics of a Low-Grade Nickel-Bearing Ore Upgraded on the Falcon Concentrator

Catherine Kentse Thubakgale, Richard K. K. Mbaya, and Mxolisi Brendon Shongwe, Tshwane University of Technology
Peter Mendonidis, Vaal University of Technology



Paper No.: 9741

Dissolution Behaviour of Karaçam Lateritic Nickel Ore in H₂SO₄ and HCl Media

Elif Uzun, Marmara University



SESSION: RECYCLING AND TAILINGS TREATMENT

Paper No.: 9406

Recovery of Nickel-Containing Coatings with Hydro-Biotechnological Methods

Jens Markowski, Brandenburg University of Technology
Harry Pempel, ERLQS Europa Recycling und Logistiksysteme GmbH
Peter Ay, Brandenburg University of Technology



Paper No.: 9382

Recycling of Nickel, Copper, Cobalt, and Vanadium

Clemens Kuhnert, Nickelhütte Aue GmbH



Paper No.: 9533

Leaching Characteristics of Nickeliferous Pyrrhotite Tailings from the Sudbury, Ontario Area

Srinath Garg Govindarajan, Kurtis Judd, Radhakrishnan Mahadevan, Elizabeth Edwards, and Vladimiro Papangelakis, University of Toronto



Paper No.: 9704

Stirred-Tank Bioleaching of a Pyrrhotite-Rich Tailings Sample

Rory Cameron, Rolando Lastra, Yves Thibault, and Lucie Morin, CanmetMINING, Natural Resources Canada
Douglas Gould, Independent Consultant



Paper No.: 9482

Waste Management and Energy Savings Through Extraction of Valuable Metals: Copper, Nickel, and Cobalt from Sulphidic Tailings of Golgohar Iron Mine, Iran

M. Askari, Golgohar Mining and Industrial Co.
A. Ahmadi, Isfahan University of Technology



SESSION: METALS SEPARATION AND RECOVERY II

Paper No.: 9480

Prediction of Morphology Development from Nucleation and Plating Overpotentials in Nickel Electrodeposition

Liezi Schoeman and Kathryn Sole, University of Pretoria



Paper No.: 9680

Separation of Zinc from Nickel Sulfate Solution with Solvent Extraction Method: Nickelbousingaultite Crystallization in the Raffinate by Ammonia

Maryam Rasouli and Davood Moradkhani, Research and Engineering Company for Non-ferrous Metals (ReCo.)



Paper No.: 9637

Molecular Recognition Technology: Simplified, Green Chemistry Process for Selective Separations and Recovery in Cobalt, Nickel, and Platinum Group Metal Hydrometallurgy

S. R. Izatt, R. L. Bruening, N. E. Izatt, and R. M. Izatt, IBC Advanced Technologies, Inc.



Paper No.: 9763

Commercial Production of High Purity Nickel Cathode from Copper Refinery Bleed Stream

Ajaykumar Patel, Ian Ewart, Gourab Satapathy, and Trevor Bergfeldt, emew Corporation



NICKEL-COBALT 2017 (4TH INTERNATIONAL CONFERENCE) - PYROMETALLURGY OF NICKEL-COBALT

SESSION: NI-CO PYROMETALLURGICAL OPERATIONS

Paper No.: 9651

Meeting Today's Challenge in Nickel Production: Reducing Operating Costs at Nickel Sulphide and Laterite Plants

A. Vahed, A. E. M. Warner, and P. Mackey, Advisian, WorleyParsons Group



Paper No.: 9714

Fluidized Bed Reduction of Nickel Laterite at Koniambo Nickel

Eric Eccleston, TechnipFMC

Ron Schonewille, Glencore

Francis Letarte and Eric Gardner, Koniambo Nickel SAS



Paper No.: 9730

The Sudbury Integrated Nickel Operations Converting Practice, an Update

Sari J. Muinonen, Rifat Jabbar, and Alison Cummings, Sudbury Integrated Nickel Operations, A Glencore Company
Graeme Goodall, XPS Consulting and Testwork Services, A Glencore Company



Paper No.: 9721

Discrete Event Simulation of the Glencore Sudbury Integrated Nickel Operations Converter Aisle

Rajan Pandher, XPS Consulting & Testwork Services, A Glencore Company

Sari Muinonen and Rifat Jabbar, Sudbury Integrated Nickel OperationsAGlencoreCompany

Mika Muinonen and Graeme Goodall, XPS Consulting & Testwork ServicesAGlencoreCompany



Paper No.: 9493

Canadian Pyrrhotite Tailings: The History, Inventory, and Processing

Sabereh Rezaei and Feng Liu, University of Toronto

Samuel Marcuson, Marcuson and Associates

Mika Muinonen, XPS - Glencore

Lucky Lakshmanan and Ram Sridhar, Process Research ORTECH Inc.

Mansoor Barati, University of Toronto



SESSION: NI-CO PYROMETALLURGICAL PROCESS MODELLING

Paper No.: 9720

Effect of CaO on the Slag-Matte Thermochemistry in a Nickel Sulfide Converter

Taufiq Hidayat and Denis Shishin, The University of Queensland

David Grimsey, Nickel West Kalgoorlie Smelter

Peter Hayes and Evgueni Jak, The University of Queensland



Paper No.: 9518

Incorporation of Matte-Slag Thermochemistry into Sulphide Smelter Discrete Event Simulation

Alessandro Navarra, Francisco Valenzuela, and Rodrigo Cruz, Universidad Católica del Norte

Camila Arancibia, and Rodrigo Yañez, Universidad de Atacama

Cesar Acuña, Formerly of Codelco (now retired)



Paper No.: 9449

Soft Sensors and Fuzzy Logic Control: A Practical Way to Overcome Complex Problems
Marc Tardif and Michel Ruel, BBA Inc.
Francis Letarte-Lavoie and Robert Beaulieu, Koniambo Nickel SAS



Paper No.: 9706

A TGA/DSC Study on the Kinetics of Nickel Laterite Ore Reduction
Sahand Sarbishei and Leili Tafaghodi Khajavi, University of British Columbia



Paper No.: 9716

Experimental and Modelling Research of Slag Properties in Nickel Laterite Smelting
Jeff Chen, Taufiq Hidayat, and Denis Shishin, The University of Queensland
Gary O'Connell and Francis Letarte, Koniambo Nickel SAS
Peter Hayes and Evgueni Jak, The University of Queensland



Paper No.: 9660

Experiences with the Upgrade of a Metal Accounting System in a Nickel Smelter
Simon Gariépy, Luc Lachance, and Myriam Cousineau, Algosys



SESSION: NI-CO PYROMETALLURGY TECHNOLOGY I

Paper No.: 9354

Refractory Wear in Nickel and Cobalt Processing Furnaces
Dean Gregurek, Karl Budna, Christine Wenzl, Alfred Spanring, and Bob Drew, RHI AG



Paper No.: 9595

Key Factors Affecting Nickel Recovery during the Segregation of Laterite Ores
David Grimsey, BHP Billiton
Eric John Grimsey and Don Ibana, Curtin University



Paper No.: 9644

Dry Atomization of Nickel Laterite Slag
D. Sauter, S. Faucher, L. C. So, and S. Mostaghel, Hatch Ltd.
S. K. Lee and S.-Y. Oh, Ecomaister Co., Ltd.
K. Aswin and A. Triwahyuono, PT Vale



Paper No.: 9622

Recovery of Valuable Base Metals from Secondary Materials Using DC Plasma Smelting
Tim Johnson, Tetronics International



SESSION: GENERAL PYROMETALLURGY I

Paper No.: 9572

Microwave Reduction of Black Thor Chromite Ore
K. Mackowiak and C. A. Pickles, Queen's University



Paper No.: 9696

The Effect of Fluxing Agent on Direct Reduction of Chromite Ore
Samira Sokhanvaran and Dogan Paktunc, CanmetMINING, Natural Resources Canada



Paper No.: 9562

The SMS Group DC Electrode Column (Cathode), Design, and Operation
C. Kempe, A. Liedtke, A. Haaks, H. Oterdoom, and A. Scheltema Beduin, SMS group



SESSION: NI-CO SEA NODULE PROCESSING

Paper No.: 9728

Development of a Metallurgical Process for Polymetallic Nodules

J. R. Donald, SNC-Lavalin Group Inc.
C. McLachlan, DeepGreen Resources



Paper No.: 9712

Base Metal Recovery from Polymetallic Nodule and Laterite Ore Mixtures. Part I: Pressure Acid Leaching in the Presence of Caron Process Tailings

R. Causse Miyares, Joint Organization Interoceanmetal
M. Pelegrin Rodriguez and A. Mosqueda Martínez, CEDINIQ
J. Castellanos Suarez and R. Aja, CIPIMM



SESSION: GENERAL PYROMETALLURGY II

Paper No.: 9359

Flowsheet Development for the Extraction of Rare Earths Using Mintek's PyEarth™ Process

Kabwika Bisaka, Itumeleng Thobadi, Sam Mokoena, Christoph Pawlik, and Markus Erwee, Mintek



Paper No.: 9677

Slag Refining of Silicon: A Review

Ali Hosseinpour and Leili Tafaghodi Khajavi, University of British Columbia



Paper No.: 9384

Design-by-Analysis of Water-Cooled Gas Handling Ducts

M. Al-Dojayli, J. Woloshyn, S. Arsenault, H. Ghorbani, T. Plikas, T. Porretta, and B. Pretorius, Hatch Ltd.



Paper No.: 9713

Tapping Smelting Furnaces Using Advanced Thermal Lances: A Routine but Vital Task

Darwin Morales, Veronica Cambiaso, Cristhian Morales, and Roberto Pena, Trefimet S.A.



SESSION: NI-CO PYROMETALLURGY TECHNOLOGY II

Paper No.: 9467

Novasmelt™ for Nickel Production

Stanko Nikolic, Martin Lluís Bakker, Hugo Joubert, Stephen Francis Gwynn-Jones, Isobel McDougall, and Randolph Bruce Nourse, Tenova Pyromet



Paper No.: 9331

Improving the Process of Blending Consistent and Predictable Feed in the Nickel Smelting Process Using PGNA Technology

April Montero SABIA, Inc.
Michael Loken, Sudbury Integrated Nickel Operations, A Glencore Company



Paper No.: 9563

Use of Forced Post-Combustion in FeNi Laterite Smelting Furnaces

S. Pilger, J. Rotarius, T. P. Bui, and H. Oterdoom, SMS group



Paper No.: 9604

Examination of Laterite Ferronickel Projects Using the Pyrometallurgy Route in the Long

Term Pedro Pino Véliz and Elpidio F. Reis, PEK Teknep Overseas Engenharia S. A.



Paper No.: 9446

Lower Temperature Ferronickel Smelting by Utilizing Red Mud as a Flux

Hyunsik Park, Minchul Ha, and Minseok Kim, Korea Institute of Geoscience and Mineral Resources (KIGAM)



WORLD GOLD (7TH INTERNATIONAL CONFERENCE)

SESSION: EXTRACTIVE METALLURGY: PREG-ROBBING I

Paper No.: 9560

Practical Treatment Options for Carbonaceous Preg-Robbing Gold

Ores Stephen La Brooy, Ausenco Services
Peter Wemyss, Centennial Resources
Jeff Bowen, Ausenco Services



Paper No.: 9753

The Use of Mercury to Inhibit Autoclave Preg-Robbing of Gold: Pilot Plant Trials

Iliia Fomenko, Peter Zaytsev, Michail Pleshkov, Lev Chugaev, and Yacov Shneerson, SRC Hydrometallurgy



Paper No.: 9450

Preg-Robbing Carbonaceous Matter: An Evaluation of Surface Chemical Control

Mana Pourdasht, Liuyin Xia, Stamen Dimov, Brian Hart, and Zhe Chen, University of Western Ontario



SESSION: PROCESS MODELLING

Paper No.: 9373

The Prediction of Carbon-in-Leach Gold Recovery Using Near-Infrared Spectroscopy

Jeffrey Olson, Barrick Cortez Inc.



Paper No.: 9645

Modeling the Cyanide Consumption in Leaching of Gold Ores Based on the Amount and Liberation Degree of Cyanicides

Yaser Kianinia, Mohammad Reza Khalesi, Mahmoud Abdollahi, and Ahmad Khodadadi Darban, Tarbiat Modares University



Paper No.: 9544

Sulfurization of Mercury from Gold Production Using a Planetary Ball Mill

Masaki Takaoka, Kyoto University
Yeonuk Choi, Barrick Gold Corporation
Shunta Nakamura, Kyoto University
Yoshiyuki Mizuno, Kurimoto, Ltd.
Taketoshi Kusakabe, Kyoto University



Paper No.: 9548

Removal of Arsenic from Gold Processing Circuits by Use of Novel Magnetic Nanoparticles

Chong Feng, Chris Aldrich, Jacobus Eksteen, and Damien Arrigan, Curtin University



Paper No.: 9542

A New Approach to Accessing Gold in Arsenopyrite

Gabriel Garcia Curiel, Romain Barbaroux, David Lemieux, Khalil Nasrallah, and Jean-Marc Lalancette, Dundee Sustainable Technologies



SESSION: EXTRACTIVE METALLURGY: PREG-ROBBING II

Paper No.: 9608

Characterization of Carbonaceous Matter Associated with Preg-Robbing Ores

Zihe Ren, Tianbi Zhang, and Jing Liu, University of British Columbia
Marcus Tomlinson, Goldcorp Inc.
Edouard Asselin, University of British Columbia



Paper No.: 9403

Effects of Blinding Reagents on the Adsorption Behavior of Carbon Concentrates: An Electrochemical Study

Jing Liu, Zihe Ren, University of British Columbia
Marcus Tomlinson, Goldcorp Inc.
Edouard Asselin, University of British Columbia



SESSION: COMMINUTION AND MINERAL PROCESSING

Paper No.: 9447

What is the Net Benefit of a Gravity Circuit?

Teresa McGrath, William Staunton, and Alan Bax, Curtin University



Paper No.: 9471

Applicability of the HIT for Evaluating Comminution and Geomechanical Parameters from Drill Core Samples – The Odyssey Project Case Study

Yanick Bergeron, Agnico Eagle Mines Limited
Toni Kojovic, SimSAGE Pty Ltd.
Marie-des-Neiges Gagnon, Mine Canadian Malartic
Patrice Okono, Université Laval



Paper No.: 9602

Gravity Recovery of Gold-Bearing Sulphides in a Milling Circuit

Dave Wiseman, David Wiseman Pty Ltd.
Robert Dunne, Rob Dunne Consulting



SESSION: OPERATIONS: IMPROVING GOLD RECOVERY I

Paper No.: 9348

What to Do with CIL Carbon Fines? IAMGOLD's Innovative Solution

V. Aube, IAMGOLD Corporation
S. Bellec, Soutex
M. Ourriban, M. Barakate, M. R. Eddahabi, and Y. Chaik, IAMGOLD Essakane SA
M. Deshaies and J. Girard, IAMGOLD Corporation



Paper No.: 9365

Otjikoto Mill Leach Operation in 2015–2016

Guy Deschenes, BBA Inc.
Eric Barnard, John Tero, Setta Mbalamba, and Andreas Nashitati, Otjikoto Mine
John Rajala, B2Gold Corporation



Paper No.: 9596

Incremental Process Improvements at the Pogo Mill

J. Pyecha, J. Sliwinski, H. Kikutani, D. Larimer, and J. Atwood, Sumitomo Metal Mining Pogo LLC



SESSION: EXTRACTIVE METALLURGY: PRESSURE OXIDATION

Paper No.: 9661

Redox Potential Measurement during Pressure Oxidation (POX) of a Refractory Gold Ore

Igor Guzman, Steven J. Thorpe, and Vladimiro G. Papangelakis, University of Toronto



Paper No.: 9369

Characterization of Solid Phases in the Iron-Sulfate-Water System Where Silver is Present

Ajanthia Gunaratnam and David Bruce Dreisinger, University of British Columbia
Yeonuk Choi, Barrick Gold Corporation



Paper No.: 9370

Ferric Sulphate Precipitation at Gold Pressure Oxidation Conditions

Ambrosia Ivana, William Hawker, and James Vaughan, The University of Queensland



Paper No.: 9528

Pressure Oxidation in Gold Circuits: Basic Ferric Arsenate Sulphate and Basic Ferric Sulphate Behaviour in Downstream Processing

Jakolien Strauss and Volha Yahorava, Mintek
Mario Alberto Gomez, Shenyang University of Chemical Technology



Paper No.: 9571

Start-up and Operation of the Aga Mineração Refractory Gold Pressure Oxidation Plant

R. Ellenwood, M. Collins, J. Dennett, M. Faris, V. Reddy, and N. Tuffrey, Sherritt Technologies
A. Moreira and M. Antonio, AngloGold Ashanti Córrego do Sítio Mineração



SESSION: MINERALOGY AND CHARACTERIZATION: GEOMETALLURGY

Paper No.: 9304

Geomaterials – The Key to Improving Your Mine Value Chain

Leendert (Leon) Lorenzen, Lorenzen Consultants and Mintrex Pty Ltd.
Bradley Frater, Mintrex Pty Ltd.



Paper No.: 9455

Applications of an Integrated Gold Department Methodology for Metallurgical Diagnostics

Aparup Chattopadhyay, Integrated Process Mineralogy Solutions Inc.
Stamen Dimov and Brian Hart, University of Western Ontario
John Jiang, AuTec Innovative Extractive Solutions
Barun Gorain, Barrick Gold Corporation



Paper No.: 9689

Geomaterials and Mineralogical Characterization of Gold Ores

Jing Li, Xiamen Zijin Technology of Mining and Metallurgy Ltd. and State Key Laboratory of Comprehensive Utilization of Low Grade Refractory Gold Ores
Joe Zhou, Xiamen Zijin Technology of Mining and Metallurgy Ltd., State Key Laboratory of Comprehensive Utilization of Low Grade Refractory Gold Ores,
and Joe Zhou Mineralogy Limited



SESSION: ENVIRONMENTAL: NOVEL METHODS OF GOLD RECOVERY

Paper No.: 9552

Gold Solubility in Smelting Slags for the Recycling of Industrial and Mining Wastes

Joo Hyun Park, Hanyang University
Hyunsik Park, Korea Institute of Geoscience and Mineral Resources (KIGAM)



Paper No.: 9598

Adapting Gold Flotation Techniques to Resource Recovery from Municipal Waste

Doug Warkentin, Kemetco Research Inc.
Michael Rowley, EnviroAsh Technologies Inc.



Paper No.: 9623

Plasma Smelting of Unconventional Ores and Mine Residues for the Recovery of Precious Metals

T. P. Johnson, Tetronics International
A. Vathavooran, Tetra Tech



Paper No.: 9755

A Systematic Experimental Study on Gold Recovery from Electronic Waste Using Selective Ammonium Persulfate Oxidation

Andrea Alzate, Esperanza López, and Claudia Serna, University of Antioquia; Maria Holuszko, University of British Columbia; Oberlando Gonzalez, Ingeniería, Suministros y Montajes S.A.S, INSUMON S.A.S



SESSION: EXTRACTIVE METALLURGY: CYANIDE LEACHING AND ALTERNATIVES I

Paper No.: 9564

Effect of Dissolved Oxygen on Pre-Oxidation and Cyanidation of Gold Ore Containing Sulfide Minerals: A Review

Rina Kim and Ahmad Ghahreman, Queen's University
Michel Epiney, Air Liquide Canada



Paper No.: 9646

Biopolymers for Anti-Scaling in Leaching Processes
C. Bergstrand and R. A. Lauten, Pionera



Paper No.: 9568

Electrochemical Investigation of the Effect of Dissolved Oxygen on Gold Cyanidation in the Presence of Sulfidic Refractory Ores
Rina Kim and Ahmad Ghahreman, Queen's University
Michel Epiney, Air Liquide Canada



SESSION: ENVIRONMENTAL: REDUCING WATER USAGE

Paper No.: 9554

Evaluating the Transition to Filtered Tailings at Cerro Negro
André Gagnon and Peter Lind, Goldcorp Inc.



Paper No.: 9601

Reducing Water Usage in Gold Treatment – What Is Possible
Eric Spiller, Tetra Tech Inc. and Colorado School of Mines
Robert Dunne, Rob Dunne Consulting



Paper No.: 9485

Water Recycle in Gold, Nickel, and Copper Minerals Flotation
Maziar E. Sauber, Sean Langley, and Saviz Mortazavi, CanmetMINING, Natural Resources Canada



SESSION: ENVIRONMENTAL: CYANIDE MEASUREMENT AND DESTRUCTION

Paper No.: 9648

Chemical Cyanide Destruction Process Selection Based on Laboratory Testing
Anca Nacu and Randy Agius, Kemetco Research Inc.



Paper No.: 9398

Cyanide Analysis: A Review
Lori Manoukian and Noelene Ahern, AuTec Innovative Extractive Solutions



SESSION: MINERALOGY AND CHARACTERIZATION: CASE STUDIES

Paper No.: 9536

Mineralogical and Metallurgical Study of the Mike Cu-Au(-Zn) Deposit, Carlin Trend, Nevada
Isabel Barton, Junmo Ahn, and Jaeheon Lee, University of Arizona



Paper No.: 9607

Applications of Process Mineralogy in the Gold Department Study of Flotation Process Streams
Xiaowen (Wendy) Ma, BV Minerals – Metallurgical Division
David Way, JKTech Pty Ltd.
Xiaoying Chen, BV Minerals – Metallurgical Division
Hans Liang, JKTech Pty Ltd.



Paper No.: 9551

Mineralogical Characterization of a Complex Polymetallic Deposit Containing Gold, Silver, and Organic Carbon
Peter Lind, Goldcorp Inc.
Jaime Awmack, Goldcorp Peñasquito
Logan Jameson, AuTec Innovative Extractive Solutions



SESSION: OPERATIONS: IMPROVING GOLD RECOVERY II

Paper No.: 9489

SART Implementation at Gold Mines in Latin America
Brent Baker, Fabian Rodriguez, and Patrick Littlejohn, BQE Water Inc.



Paper No.: 9707

Flotation and Leaching at Anglo Asian Mining's Gedabek Gold and Copper Mine in Azerbaijan
John Monhemius, Farhang Hedjazi, and H. Saeed Ali, Anglo Asian Mining plc



Paper No.: 9745

X-Ray-Transmission Sorting at the Kensington Gold Mine
Christopher Robben TOMRA Sorting GmbH
Denis Girard, Coeur Alaska, Kensington Mine
Harold Cline, TOMRA Sorting Inc.
Anssi Takala, Outotec Oy



SESSION: EXTRACTIVE METALLURGY: CYANIDE LEACHING AND ALTERNATIVES II

Paper No.: 9546

Towards Industrial Implementation of Glycine Based Leach and Adsorption Technologies for Gold-Copper Ores
J. Eksteen, E. Oraby, B. C. Tanda, P. J. Tauetsile, and G. A. Bezuidenhout, Curtin University
T. Newton, Curtin University and Mining and Process Solutions Pty Ltd.
F. Trask and I. Bryan, Mining and Process Solutions Pty Ltd.



Paper No.: 9643

Isopropyl Alcohol Elution of Gold Adsorbed on Activated Carbon
Anca Nacu, Kemetco Research Inc.
Trevor Yeomans, Silver Standard Resources Inc.
Reza Tavakoli and Doug Warkentin, Kemetco Research Inc.



Paper No.: 9386

Demonstration Campaign Results on a Cyanide-Free Process for Gold Extraction from a Refractory Concentrate
David Lemieux, Jean-Marc Lalancette, and Caroline Chouinard, Dundee Sustainable Technologies



Paper No.: 9529

New Ways to Reduce Carbon-Related Gold Losses in CIL and CIP Processes
Marko Latva-Kokko, Jari Kourunen, and Kristian Lillkung, Outotec (Finland) Oy



SESSION: PROCESS CONTROL AND OPTIMIZATION

Paper No.: 9550

Implementation of an Advanced Thickener Underflow Density Control at Loulo Gold Mine, Mali
Gundo Makhado and David Sagara, Mintek



Paper No.: 9710

Optimization of the Haile Gold Mine Grinding and Flotation Line Using Predictive Control
David Carr and Quenton Johnson, Oceana Gold, Haile Gold Mine
William Gough, ANDRITZ Automation Ltd.



Paper No.: 9669

Addressing some of the Challenges of Precious Metal Accounting in Base Metal Plants
L. Lachance, S. Gariépy, I. Caraconcea, and M. Cousineau, Algosys



Paper No.: 9427

Optimising the Management of CIP/CIL Circuits
William Staunton and Karen Barbetti, Curtin University



Paper No.: 9545

Ore Deposit Knowledge – The Value of Continuous Improvement
K. Gardner, D. Seaman, and J. O'Callaghan, Newcrest Mining Limited



SESSION: PRE-CONCENTRATION

Paper No.: 9381

Feasibility of Gamma Activation Analysis for Bulk Gold Ore Sorting
Peter Coghill, Channel Tissot, and Rhys Palmer, Commonwealth Scientific and Industrial Research Organisation (CSIRO) Mineral Resources



Paper No.: 9462

Non-Destructive Assay of Gold and Other Metals in Bulk Mineral Samples
James Tickner, Chrysos Corporation Limited



Paper No.: 9476

Recovery of Coarse Liberated Gold Particles Using Pneumatically Assisted Fluidized Bed Flotation
Brigitte Seaman and Luke Vollert, Newcrest Mining Limited



Paper No.: 9733

A Comparative Sensor-Based Ore Sorting Study on Gold Deposits: Heterogeneity, X-Ray Sensors and Advanced Sorting Algorithms
Arvin Mazhary, Huaizhe Li, and Bern Klein, University of British Columbia



SESSION: EXTRACTIVE METALLURGY: ATMOSPHERIC LEACHING

Paper No.: 9437

A Preliminary Comparison Between a Granular Coconut Shell-Based Activated Carbon and Lewatit® AF5 in the Application of Gold-Bearing Pyrite Oxidation in Acidic Ferric Sulphate Media
Denver Cowan and Ahmad Ghahreman, Queen's University
Yeonuk Choi, Barrick Gold Corporation



Paper No.: 9380

Oxygen Mass Transfer in the Albion Process™: From the Laboratory to the Plant
Paul Voigt, Glencore Technology; Daniel Mallah, Glencore Zinc; Mike Hourn, Glencore Technology



Paper No.: 9401

Enhanced Leaching of Arsenopyrite Concentrates as a Pretreatment for Gold Recovery from Refractory Ores
Oscar Olvera, AuTec Innovative Extractive Solutions
Yeonuk Choi, Barrick Gold Corporation



Paper No.: 9555

Testing Inventory Drawdown Through Pressure Injection in the Leach Pad at Los Filos Mine
Jeet Basi and Simon Hille, Goldcorp Inc.
Dale F. Rucker, hydroGEOPHYSICS, Inc.



Paper No.: 9436

Carbon Catalyst Assisted Atmospheric Oxidation of Pyrite with High Elemental Sulphur Yield in Ferric Sulphate Acidic Media
Denver Cowan and Ahmad Ghahreman, Queen's University
Yeonuk Choi, Barrick Gold Corporation



SESSION: MINERALOGY AND CHARACTERIZATION: TECHNIQUES

Paper No.: 9457

Advanced Laser-Induced Breakdown Spectroscopy (LIBS) Sensor for Gold Mining
Aissa Harhira and Paul Bouchard, National Research Council Canada
Kheireddine Rifai, National Research Council Canada and Université Laval
Josette El Haddad, Mohamad Sabsabi, and Alain Blouin, National Research Council Canada
Marcel Laflamme, Université Laval



Paper No.: 9351

Arrested Cupellation: A Step Change in Fast In-Line Fire Assay that Enables Gold Analysis at Low Concentration

Blanche DeJong, IMP Automation
Boyne Hohenstein, IMP Group Pty
Pierre Hofmeyr, IMP Automation
Brad McBain, IMP Automation Canada Ltd.



SESSION: OPERATIONS: PRE-TREATMENTS

Paper No.: 9553

Passivation of a Pyrrhotite-Rich Flotation Concentrate for Cyanidation Marcus Tomlinson, Kevin Murray, and Simon Hille, Goldcorp Inc.
Jean-Félix Lepage, Goldcorp Éléonore



Paper No.: 9385

Commissioning of the BIOX® and ASTER™ Processes at the Runruno Gold Project
Jan van Niekerk and Waldemar Olivier, Outotec (RSA) (Proprietary) Limited
Melvin Savella, FCF Minerals Corporation



Paper No.: 9428

Capacity and Product Quality Optimization of the Syama Roaster
Alexandros Charitos, Christian Mattich, and Joerg Hammerschmidt, Outotec GmbH & Co. KG
Jack Wilson, Trent Kerr, and David Landwehr, Resolute Mining Limited



SESSION: EXTRACTIVE METALLURGY: GOLD TELLURIDES AND SELENIDES

Paper No.: 9639

Leaching Alternatives to Recover Gold and Silver from Tellurides
F. Nava-Alonso, A. A. González-Ibarra, E. Pérez-García, E. N. Castillo-Ventureño, A. Uribe-Salas,
and J. C. Fuentes-Aceituno, CINVESTAV Saltillo



Paper No.: 9524

Removal of Tellurium and Selenium from Cyanide Solutions by Solvent Extraction Using Quaternary Ammonium Salts
Ricardo Solís-Rodríguez, Omero Alonso-Gonzalez, Sergio Haro-Rodríguez, Héctor Rene Vega-Carrillo, Francisco Alvarado-Hernandez,
and Juan Antonio Gonzalez-Anaya, Universidad Autónoma de Zacatecas



Paper No.: 9588

Leaching Alternatives for Gold Tellurides in Sonora, Mexico
Paula Cristina Santos-Munguía and Fabiola Nava-Alonso, CINVESTAV Saltillo
Omero Alonso-González, Universidad Autónoma de Zacatecas

