Content

1  WATER ISSUES IN OPEN PIT MINING

Ali, Michael Sandow; Addo, William
Assessment of the quality of Block 4 pit water at Iduapriem Gold Mine, Tarkwa, Ghana

Baniasadi, Ali; Sharafinejad, Feizollah; Baniassadzadeh, Mohamad Hossein; Akbari, Sedigheh
Study of Heavy and Main Elements Concentration in Waters Supplies of Shour River in Sarcheshmeh copper mine (An Approach to Medical Geology)

Doulati Ardejani, Faramarz; Shafaei, Seid Ziadin; Shahhoseiny, Majid; Singh, Raghu; Arab-Amiri, Ali Reza
Water quality investigations in the vicinity of an active coal washing plant in Zirab, Mazandaran province, northern Iran

Friedrich, Annika; Guse, Matthes; Jolas, Peter; Simon, Andre; Hoth, Nils; Rascher, Jochen
Results of studies performed for reduced impact of material conversion processes in mixed soil dumps

Kruse, Natalie A; Brewster, Kimberly; Blair, Brian; Shaw, Kaabe
Contribution of Aluminum from Abandoned Surface Mine Pits in Raccoon Creek, Ohio

Mayes, William Matthew; Jarvis, Adam Paul; Burke, Ian; Walton, Melanie; Gruiž, Katalin
Trace and rare earth element dispersal downstream of the Ajka red mud spill, Hungary

McCullough, Clint D.; Lund, Mark A.
Limiting factors for crayfish and finfish in acidic coal pit lakes

Müller, Mike; Eulitz, Katja; McCullough, Clint M.; Lund, Mark A.
Model-based Investigations of Acidity Sources and Sinks of a Pit Lake in Western Australia

Müller, Stefan; Mylvaganam, Jayanathan; de Bruyn, Ian; Price, Jeff
Mine groundwater control and slope depressurisation methods at Ok Tedi in one of the highest annual rainfall areas in the world

Saxby, Timothy James; Gosling, Sarah; McCafferty, Fiona
Managing climatic variability risks for mining operations

Shafaei Tonkaboni, Seyed Ziaedin; Jannesar Malakooti, Sajjad; Doulati Ardejani, Faramarz; Singh, Raghu; Soleimani, Esmael; Noaparast, Mohammad; Naseh, Reza
Pyrite oxidation in the Sarcheshmeh copper mine tailings dam, Kerman, Iran

Vasileiou, Eleni; Koumantakis, Ioannis
The exploitation of lignite deposits in relation with the surface and groundwater in the mining area. The case study of Potamia basin, Thessaly, Greece

Villain, Lucile; Sundström, Nils; Perttu, Nils; Alakangas, Lena; Öhlander, Björn
Geophysical investigations to identify groundwater pathways at a small open-pit copper mine reclaimed by backfilling and sealing

Wagner, Andreas; Müller, Christian
Infiltration of groundwater to stabilize groundwater levels in the area of wetlands
WATER ISSUES IN UNDERGROUND MINING

Atkinson, Scott Consaul; Stihin, Vladimir
Installation of a Low-Cost Mine Water Discharge Monitoring System at the Charaat Gold Prospect, Kyrgyzstan and its Application to a 3-D Numerical Groundwater Flow Model

Bailey, Matthew; Watson, Ian; Wyatt, Lee; Davies, Tracey
Applications of pumping tests in the development of mine water management strategies and remediation schemes

Breckenridge, James Larry; Luszcz, Emily
Predicting Underground Mine Dewatering Requirements: A Case Study of a Precious Metal Mine in a Subtropical Environment

Klinger, Christoph; Eckart, Michael; Kories, Holger; Gzyl, Gregorz
Relevance of sulphate reduction for model based prognosis of mine water quality development with reactive mass transport concepts

Newman, Greg; Newman, Lori; Chapman, Denise; Harbicht, Travis
Artificial Ground Freezing: An Environmental Best Practice at Cameco’s Uranium Mining Operations in Northern Saskatchewan, Canada

van Zyl, Andries Wynand; Harrison, Susan T.L.; van Hille, Robert P.
Biodegradation of thiocyanate by a mixed microbial population

Werner, Florian; Cremer, Sabine; Getta, Michael; Messer, Johannes
Ground Water Discharge from a Near Surface Aquifer into Deep Coal Production Horizons as Post Mining Hot Spots of Water Logging Probability

Yang, Wensheng; Yang, Chunlai
Creative Grouting Method Used in Blocking Water Inflow in a Shaft Wall

Ziegler, William; Middleton, Heather
Analysis of mine water origins using geochemistry, Tritium isotopes and algae

RECHARGING AQUIFERS

Akoachere, Richard Ayuk II; Van Tonder, Gerrit
The trigger-tube: A new apparatus and method for mixing solutes for injection tests in boreholes
Botha, Fanie; Maleka, Lebogang
Results show that man-made aquifers within the platinum mining industry in South Africa can provide a solution for future water demands 147

Polak, Krzysztof; Klich, Jerzy; Kaznowska, Karolina
The method of wells’ efficiency estimation 153

4 MINES & GEOTHERMAL ENERGY

Digges La Touche, Gareth; Preene, Martin
The potential use of ground energy in the mining industry – exploration to closure 161

Eckart, Michael; Kories, Holger; Rüterkamp, Peter; Kaul, Viktoria; Bems, Curd
Flow- and Heat-Transport-Simulation with an optimized discretization of the geological structure model 167

Ferket, Helga L.W.; Laenen, Ben J.M.; Van Tongeren, Peter C.H.
Transforming flooded coal mines to large-scale geothermal and heat storage reservoirs: what can we expect? 171

Loredo, Jorge; Ordóñez, Almudena; Jardón, Santiago; Álvarez, Rodrigo
Mine water as geothermal resource in Asturian coal mining basins (NW Spain) 177

Reichart, Guillaume; Vaute, Laurent; Collon-Drouaille, Pauline; Buès, Michel A.
Modelling heat and salinity related convective processes in deep mining flooded wells 183

Streb, Christiane; Wieber, Georg
Geothermal energy from a flooded mine: a hydraulic model 189

5 WATER ISSUES IN COALBED METHANE, COAL GASIFICATION & UNDERGROUND CARBON DIOXIDE STORAGE

Pullin, Huw; Konstantinou, Eleni; Sapsford, Devin; Marsh, Richard
The effects of coal rank, temperature and residence time on the chemical composition of tar condensates 197

Weyer, K. Udo
Successful Geologic CO2 Storage by Geofluids System Analysis 203

6 FLOW & TRANSPORT MODELLING

Booth, Colin J.; Greer, Christopher B.
Application of MODFLOW using TMR and discrete-step modification of hydraulic properties to simulate the hydrogeologic impact of longwall mining subsidence on overlying shallow aquifers 211

Rüde, Freund & Wolkersdorfer (Editors)
Digges La Touche, Gareth; Culshaw, Helen; Lansley, Richard
Probabilistic modelling for tailings remediation and restoration 217

Johnson, Raymond H.
Reactive Transport Modeling for the Proposed Dewey Burdock Uranium In-Situ Recovery Mine, Edgemont, South Dakota, USA 221

Luo, Junfeng; Diersch, Hans-Jörg; Monninkhoff, Bertram
3D Modeling of Saline Groundwater Flow and Transport in a Flooded Salt Mine, Staßfurt/Germany 225

Niedbalska, Katarzyna; Haładus, Andrzej; Bukowski, Przemysław; Augustyniak, Iwona; Kubica, Janusz
Modelling of changes of hydrodynamic conditions in the aquatic environment of the Maczki-Bór sand pit due to the fact of planned closure of mining operations (NE part of Upper Silesian Coal Basin – Poland) 231

7

ACID MINE DRAINAGE PROCESSES & TREATMENT

Abella Lopes, Fabrício; dos Santos Menezes, Jean C.S.; Schneider, Ivo André Homrich
Acid mine drainage as source of iron for the treatment of sewage by coagulation and Fenton’s Reaction 237

Abfertiawan, Sonny; Gautama, Rudy Sayoga
Development of Catchment Area Approach in Management of Acid Mine Drainage 241

Abreu, Carolina B.; Fleming, Peter M.; Ciminelli, Virginia S. T.; Lopez, Dina L.; Branco, Otávio E. A.; Rodrigues, Paulo C. H.
Soil gas compositions as a tool for understanding acid mine drainage formation and air flow in a uranium waste rock pile 247

Ali, Michael Sandow
Remediation of acid mine waters 253

Amoako, Felix Yebo
Immobilisation of Hazardous Substances from Mine Tailings using Mineral Reservoir Technology: Case of Mineral Processing Tailings from Ghana 259

Bäckström, Mattias; Sartz, Lotta; Larsson, Erik; Karlsson, Stefan
Properties of alkaline materials for injection into weathered mine waste piles – methods and initial pilot trials 265

Bakatula, Elisée Nsimba; Cukrowska, Ewa; Straker, Colin; Weiersbye, Isabel; Tutu, Hlanganani
Biosorption of metals from gold mine wastewaters by Penicillium simplicissimum immobilized on zeolite: Kinetic, equilibrium and thermodynamic studies 271

Bertolino, Sueli Moura; Veloso, Tacia Costa; Leao, Versiane Albis
Performance of a lactate-fed UASB reactor treating sulfate containing waters 277

Bilek, Felix; Brömmel, Katrin; Stolpe, Harro
Active Treatment of Fe-, Mn- and Coal dust Contaminated Mine Water as Part of the RAME-Project in Vietnam 281
Buzzi, Daniella Cardoso; Viegas, Lucas Stéphano; Silvas, Flávia Paulucci Cianga; Espinosa, Denise Crocce Romano; Rodrigues, Marco Antônio Siqueira; Bernardes, Andréa Moura; Tenório, Jorge Alberto Soares
The Use of Microfiltration and Electrodialysis for Treatment of Acid Mine Drainage 287

Cheong, Young-Wook; Yim, Gil-Jae; Park, Hyun-Sung
Alkalinity Production and Neutralization Potential of Used Limestone Retrieved from Anoxic Reactors 293

Duarte, Rute Almeida; Ladeira, Ana Claudia
Study of Manganese Removal from Mining Effluent 297

Frau, Franco; Cidu, Rosa; Dadea, Claudia
AMD generation from dissolution of secondary metal sulphates 301

Gandy, Catherine Jane; Jarvis, Adam Paul
The influence of engineering scale on the performance of compost bioreactors for the remediation of divalent metals 307

Genty, Thomas; Bussière, Bruno; Neculita, Carmen M.; Benzaazoua, Mostafa; Zagury, Gérald J.
Passive treatment of acid mine drainage: repeatability for sulphate reducing passive bioreactor column efficiency testing 313

Geroni, Jennifer Nia; Sapsford, Devin; Florence, Kay
Degassing CO2 from mine water: implications for treatment of circumneutral drainage 319

Gitari, Wilson Mugera; Kaseke, Chipo; Nkuzani, Busisiwe Beryl
Passive Remediation of Acid Mine Drainage using Bentonite clay: A Laboratory batch experimental study 325

Grandin, Anna Maria; Sjöberg, Viktor; Karlsson, Stefan
Stability of weathered shales at water field capacity in the presence of Aspen wood shavings 331

Guimarães, Damaris; Leao, Versiane Albis
Studies of sulfate ions removal by the polyacrylic anion exchange resin Amberlite IRA458: batch and fixed-bed column studies 337

Heinrich, Ben; Guderitz, Ina; Neumann, Volker; Pokrandt, Karl-Heinz; Benthaus, Friedrich-Carl; Ulrich, Kai-Uwe
In-lake neutralisation and post-rehabilitation treatment of a lignite mining pit lake – lessons learned 343

Honig, Helma; Metzger, Claudia; Pust, Christopher; Schüppel, Ben
Dissolution of Various Basic Substances 349

Hutton-Ashkenny, Michael; Bowell, Rob; Dey, Matt
Engineering Solutions for the Removal of Arsenic from Aqueous Solution: A Review 353

Janneck, Eberhard; Burghardt, Diana; Martin, Mirko; Damian, Christin; Schöne, Gisbert; Meyer, Jürgen; Peiffer, Stefan
From Waste to Valuable Substance: Utilization of Schwertmannite and Lignite Filter Ash for Removal of Arsenic and Uranium from Mine Drainage 359

Jenck, Ulf; Zimmermann, Udo; Paul, Michael; Uhlig, Uli; Schöpke, Ralph
Development of an in-situ mine water treatment approach for the flooded Königstein Uranium mine (Germany) – Field experiment 365

Karlsson, Stefan; Sjöberg, Viktor; Grandin, Anna
Heterotrophic leaching of LD-slag – Formation of organic ligands 371

Rüde, Freund & Wolkersdorfer (Editors)
Kruse, Natalie A; Bowman, Jennifer R; Mackey, Amy L; McCament, Benny; Johnson, Kelly
When Dose-ers Turn Off: A Case Study in Raccoon Creek, Ohio

Kumar, Radhakrishnan Naresh; McCullough, Clint D.; Lund, Mark A.
Potential of sewage and green waste for acidic pit lake bioremediation

Lövgren, Lars; Hedlund, Tomas; Malm, Linda; Karlsson, Torbjörn
Immobilisation of trace metals in sulphidic mine tailings

Mądrala, Mariusz; Worsa-Kozak, Magdalena
Groundwater system of Grodziec Syncline in Iwiny region (SW Poland) 10 years after abandonment of dewatering in “Konrad” mine

Marandi, Reza; Doulati Ardejani, Faramarz; Soleymani, Hanieh
Bio-extraction of Copper and Magnesium Ions from Acid Mine Drainage

Michler, Alexander; Fischer, Cornelius; Darbha, Gopala K.; Schäfer, Thorsten
Retention of Fe-oxide colloids in a black slate environment

Mooruth, Neelah
Passive Treatment of Acid Mine Drainage via a Linear Flow Channel Reactor utilising a Floating Sulphur Biofilm

Moradzadeh, Ali; Amirkhani, Farzin; Doulati Ardejani, Faramarz; Arab-Amiri, Ali Reza
Investigation of contaminated plumes caused by pyrite oxidation from a coal refuse pile at the Alborz Sharghi coal washing plant using VLF geophysical method

Musyoka, Nicholas Mulei; Petrik, Leslie F.; Hums, Eric
Ultrasonic assisted synthesis of zeolite A from coal fly ash using mine waters (acid mine drainage and circumneutral mine water) as a substitute for ultra pure water

Nason, Peter Alexander; Alakangas, Lena; Öhlander, Björn
Assessing the Impact of Sewage Sludge on a Formally Remediated Tailings Impoundment in Relation to the Transport of Metals in Groundwater

Navratiil, James Dale; Akin, Andrew; Feis, Justin
Treatment of Mining-contaminated Waters with an Iron Ferrite–Magnetite Process

Pust, Christopher; Schüppel, Ben; König, Wolfgang
Advanced Treatment of Waters Affected by AMD

Rubinos, David; Díaz-Fierros, Francisco; Barral, Maria Teresa
Neutralization and Decontamination of Acid Leachates using Bauxite Red Mud

Sadeghi Amirshahidi, Mohammad Hossein; Eslam kish, Teimour; Doulati Ardejani, Faramarz; Soleimani, Esmaeil
Investigating the Pyrite oxidation and mineralogical characteristics of a coal washing waste dump, Albourz Sharghi, Shahrood, Iran

Sartz, Lotta; Larsson, Erik; Sädbom, Stefan; Bäckström, Mattias
Weathering of waste rock in different climatic conditions - a kinetic freeze/thaw and humidity cell experiment

Schipek, Mandy; Merkel, Broder; Scholz, Günter; Rabe, Wolfgang; Clauß, Denny; Lilja, Göran
Recent results of the research project OILL (Optimizing In-Lake Liming)
Shahhoseiny, Majid; Doulati Ardejani, Faramarz; Shafaei, Sied Ziadin; Singh, Raghu; Jodieri Shokri, Behshad
Geochemical characterization of a pyrite containing coal washing refuse pile produced by the Anjir Tangeh coal washing plant in Zirab, Mazandaran province, Northern Iran

Silva, Rodrigo Almeida; Castro, Carmen Dias; Petter, Carlos Otávio; Schneider, Ivo André Homrich
Production of Iron Pigments (Goethite and Haematite) from Acid Mine Drainage

Silvas, Flávia Paulucci Cianga; Buzzi, Daniella Cardoso; Bernardes, Andréa Moura; Espinosa, Denise Crocce Romano; Tenório, Jorge Alberto Soares
Santa Catarina Coal Mining: Acid Mine Drainage Characterization and Neutralization

Sjöberg, Viktor; Todd, Kristen; Sartz, Lotta; Karlsson, Stefan
Impact of organic carbon in the release of vanadium from LD-slag

Tesser, Enrico; D’Amato, Emilio; Gori, Riccardo; Lubello, Claudio
Conventional and innovative processes for neutral mine drainage treatment and reuse of residuals

van Hille, Robert P.
Lessons in passive treatment: Towards efficient operation of a sulphate reduction – sulphide oxidation system

Vedder, Heidrun; Fischer, Uwe
Layout and Operation of granular fixed bed reactors

8 ECOLOGY & CHEMISTRY OF PIT LAKES

Allard, Bert; Bäckström, Mattias; Häller, Sara
Water chemistry and trace metal concentrations in an acidic alum shale pit lake - effects of liming

Čech, Martin; Peterka, Jiří; Říha, Milan; Vejřík, Lukáš; Jůza, Tomáš; Draštík, Vladislav; Kratochvíl, Michal; Muška, Milan; Kubečka, Jan
Deep spawning of perch (Perca fluviatilis L.) in the newly created Chabařovice Lake, Czech Republic

Duthe, Diana Mary; Mahoney, John J; Shchipansky, Alexander A; Terrell, Christie L
Assessment of the Process of Pit Lake Formation and Associated Geochemistry in Open Pits – Mupane Gold Mine, Botswana

Kosík, Miroslav; Čadková, Zuzana; Přikryl, Ivo; Sedá, Jaromír, Pechar, Libor; Pecharová, Emilie
Initial succession of zooplankton and zoobenthos assemblages in newly formed quarry lake Medard (Sokolov, Czech Republic)

Kumar, Radhakrishnan Naresh; McCullough, Clint D.; Lund, Mark A.; Larranaga, Santiago A.
Evaluating the factors limiting algal biomass in acidic pit lakes of the Collie lake district, Western Australia

Lund, Mark Andrew; McCullough, Clint D.
How representative are pit lakes of regional natural water bodies? A case study from silica sand mining
Peterka, Jiri; Čech, Martin; Draštík, Vladislav; Jůza, Tomáš; Frouzová, Jaroslava
Ten years of fish community succession in post-mining lake Milada-Chabařovice 535

Peterka, Jiri; Kubečka, Jan
Fish in the pit lakes – towards a functional ecosystem 537

Příkryl, Ivo; Špaček, Jan; Koza, Václav
First large mine lake successfully filled up in Czech republic 539

Schultze, Martin; Pokrandt, Karl-Heinz; Scholz, Eckhard; Jolas, Peter
Use of mine water for filling and remediation of pit lakes 545

Vrzal, David; Příkryl, Ivo; Truszyk, Adam; Fafílková, Veronika
Complicated water quality and stratification at the post mining-pit lake Medard near Sokolov, Czech Republic 551

9 WATER ISSUES IN ABANDONED MINES

Ardau, Carla; Frau, Franco; Ricci, Pier Carlo; Cannas, Carla; Dore, Elisabetta; Lattanzi, Pierfranco
Synthetic and natural Zn-Al sulphate LDHs for removal of As(V) from NAMD 559

Burger, Morne; Vermeulen, Petrus Daniel
The groundwater interaction of a deeper lying gold mine and a shallower lying coal mine through the presence of naturally occurring as well as induced preferential flow paths 563

Cepeda Alves, Raquel Maria; Fernandes Valente, Teresa Maria; Sequeira Braga, Maria Amália; Leal Gomes, Carlos Augusto
Mineralogical composition and metals retention in the fine-fraction streambed sediments of an AMD affected system 569

Cidu, Rosa; Da Pelo, Stefania; Franco, Franco
Impact of gold mining on the aquatic system: a case study at Furtei (Sardinia, Italy) 575

Haunch, Simon; MacDonald, Alan; Brown, Neil; McDermott, Christopher
The Environmental Legacy of Historic Mining Activities in the Almond River Catchment, Scotland 581

Henry, Tiernan
Tynagh Mine Groundwater Issues 587

Larios, Raquel; Silva, Verónica; Loredo, Jorge Luis; Fernández-Martínez, Rodolfo; Ordóñez, Almudena; Calderón, Amor; Rucandio, Isabel
Implications of several physicochemical parameters in the arsenic speciation in mine waters from Asturias mercury mining district (Spain) 593

Loredo, Jorge Luis; Cienfuegos, Pablo; Gaya, Lorenzo
Hydraulic Potential Use of Mine Water from Mountain Mining Activities 599

Magonono, FA; Gumbo, Jabulani Ray; Chigayo, K; Mojapelo, P
Bioaccumulation of Toxic Metals by Hyparrhenia Grass Species: A Case Study of New Union Gold Mine Tailings and Makhado Town, Limpopo, South Africa 603

Rüde, Freund & Wolkersdorfer (Editors)
Mitileni, C; Gumbo, Jabulani Ray; Muzerengi, C; Dacosta, FA
The Distribution of Toxic Metals in Sediments: Case study of New Union Gold Mine Tailings, Limpopo, South Africa 609

Ogola, Jason; Maiyana, Bethania; Yibas, Bisrat
Water Balance Determination in Mine Residue Deposits: Case Studies in the Witwatersrand Basin, South Africa 615

Takahashi, Tatsuru; Masuda, Nobuyuki; Kobayashi, Mikio; Osame, Atsushi; Asano, Hideo; Okumura, Masao; Hamai, Takaya
A study on groundwater flow and chemistry of mine waste dams 619

Tutu, Hlanganani; Camden-Smith, Bronwyn; Cukrowska, Ewa Maria; Bakatula, Elisee Nsimba; Weiersbye, Isabel; Sutton, Malcolm
Mineral efflorescent crusts as sources of pollution in gold mining environments in the Witwatersrand Basin 623

Ulrich, Kai-Uwe; Veeramani, Harish; Schofield, Eleanor J.; Sharp, Jonathan O.; Suvorova, Elena I.; Stubbs, Joanne E.; Lezama-Pacheco, Juan S.; Barrows, Charles J.; Cerrato, Jose M.; Campbell, Kate M.; Yabusaki, Steven B.; Long, Philip E.; Bernier-Latmani, Rizlan; Giammar, Daniel E.; Bargar, John R.
Biostimulated uranium immobilization within aquifers - from bench scale to field experiments 627

Wieber, Georg H.E.; Streb, Christiane
Hydrochemistry and mine water hydraulics of flooded mines: case studies from the Rhenish Massif, Germany 633

Wolkersdorfer, Christian
Mine Water Discharges of the Southern Bavarian Pitch Coal District 639

Wolkersdorfer, Christian; MacSween, Jessica
A 100 hour pump test in the 1B mine pool of the Sydney Coal Field, Nova Scotia, Canada 643

Wyatt, Lee Malcolm; Watson, Ian; Sawyer, Timothy
15 years of mine water analysis and developments in monitoring of abandoned coal mines in the United Kingdom 645

10 MINE WATER & LEGAL ASPECTS

Aghamirzadeh, Shahin; Baniasadi, Ali; Sharafinejad, Feizollah; Salajegheh, Afshin; Akbari, Sedigheh
Study of Cadmium Element Concentration in Different Horizons of Soil in Mineralization Range of Sarcheshmeh copper Mine and its Subsequent Damages from its Propagation in Environment 651

Castro, Leonardo Mitre Alvim de; Cordeiro, José Roberto Centeno; Souza, Ana Katiuscia Pastana de; Oliveira, Gilcimar Pires Cabral
Legal aspects of water resources management relating to mine water in Brazil 655

Mara, Septimius; Vlad, Serban Nicolae
NATECH events at the tailing dams – risk, hazard and vulnerability assessment 661

Turner, Alison Jean May
Risk-Based Prioritisation of Closed Mine Waste Facilities Using GIS 667

Rüde, Freund & Wolkersdorfer (Editors)
11 PADRE — PARTNERSHIP FOR ACID DRAINAGE REMEDIATION IN EUROPE

Alakangas, Lena; Azzie, Bernadette; Jarvis, Adam; Lindahl, Lars-Ake; Loredo, Jorge; Madai, Ferenc; Walder, Ingar; Wolkersdorfer, Christian
Padre-Partnership for Acid Drainage Remediation in Europe 675

Costin, Dan; Baciu, Calin; Pop, Cristian; Varga, Ildiko
Field-based kinetic testing of ARD potential of the waste rock from Roşia Montană ore deposit (Apuseni Mountains, Romania) 677

Móricz, Ferenc; Mádai, Ferenc; Walder, Ingar
Pyrite Oxidation Changes in Sulphidic Mine Wastes from the Itos Sn-Ag Deposit, Bolivia 683

Sloot, van der, Hans; van Zomeren, Andre
Characterisation leaching tests and associated geochemical speciation modelling to assess long term release behaviour from extractive wastes 689

Walder, Ingar; Wahlstrom, Margareta; Kaartinen, Tommi; Drielsma, Johannes A.; Twardowska, Irena
European waste characterisation standards A/NRD prevention 695

12 INDEX

Author Index 699
Key Word Index 704