

## Received articles

(108 articles as of April 23)

**Represented Countries (13):** Argentina, Australia, Brazil, Canada, Chile, Cyprus, Germany, Peru, Saudi Arabia, South Africa, Spain, Suriname and USA

### GEOTECHNICS AND DAM SAFETY

(28 articles)

- (A01) Stress Paths, Time Effects, and Monitoring Interpretation in Tailings Facilities**  
Priscilla Nelson, Colorado School of Mines, USA
- (A11) Lessons Learned from the Design of Drainage Systems in Tailings Dams: An Approach to Dam Safety**  
Pablo Valdés and José Luis Illanes, ARDUM Ingeniería, Chile; and Enrique Siu, INGEOCONTROL, Chile
- (A26) Challenges and Opportunities in Coarse Tailings: Pressuremeters and AI**  
Rafael Martínez, José Quiroz and Maximiliano Jara, Pangea Geotecnia, Chile
- (A27) Seismic Response of an Earth-fill Dam to Crustal Earthquakes: A Parametric Study**  
Edward Escudero, SRK Consulting, Peru; and C. Gonzales, Universidad Nacional de Ingeniería, Peru
- (A28) Influence of Construction Stages on the Settlement of Tailings Dams in PLAXIS 2D**  
José León, Felipe Rojas and Denys Parra, Anddes, Peru
- (A32) Probabilistic Slope Stability Analysis of Tailings dams: A Case Study**  
Brahian Román, Melannie Espinoza and Martín Villanueva, SRK Consulting, Peru
- (A42) Effect of Constitutive Model Selection on Trigger Analyses in Tailings Storage Facilities**  
Franco Orabona, Universidad de Buenos Aires, Argentina; Nicolás Tasso, WSP Australia; and Felipe López, WSP, Argentina
- (A44) Performance KPI Evaluation Associated with the Tailings Storage Facility Embankment**  
Humberto Collado, Rodrigo Valenzuela and Ignacio Pino, JRI Ingeniería, Chile
- (A45) Influence of the Damping Model on the Seismic Response of Tailings Dams**  
Agustín Toro, Cristian Monje and Sebastián Maureira, WSP, Chile
- (A46) Numerical Effect of Including Vertical Seismic Motion in the Stress-Strain Analysis of a Tailing Dam**  
Rodrigo Maluenda and Cristian Monje, WSP, Chile
- (A49) Evaluation of Strength Parameters in Soils and Tailings Based on EC7-2G Statistical Approaches**  
Jonathan Ybáñez, Felipe López and Lisandro Roldán, WSP, Argentina
- (A50) Assessing the Correlation Between Seismic Intensity Measures and Tailings Dam Displacements: A Numerical Study**  
Nicolás Di Giovanni, Felipe López, Nicolás Tasso, Marcelo Martínez and Jonathan Ybáñez, WSP, Argentina
- (A60) Impact of Open-Pit Blast-Induced Vibrations on Adjacent TSF Performance: Field Monitoring and Analytical Assessment at Rosebel Gold Mines**  
Andra Putra and Cecilia Mata, Zijin Rosebel Gold Mines, Suriname

**14. (A64) Scaling Hydraulic Dewatered Stacking toward a Field Demonstration at Sossego: From UFOP to On-Site**

Gustavo Belotto, Rafael Santos, Jean Lima, João da Costa, Henrique Guerzoni, José Costa, Romulo Reis, Jason Hall, Vale Base Metals, Brazil; and Ricardo Fiorotti, Universidade Federal do Ouro Preto

**15. (A65) Effect of Gradation and Salinity on Density States of Saline Soils for Tailings Dam Foundation Assessment**

Josefa Silva, Sergio Carrasco, Universidad Técnica Federico Santa María, Chile; and Gonzalo Suazo, GHD, Chile

**16. (A66) Cyclic Resistance Characterization of Borrow Sands Using Cyclic Direct Simple Shear Test**

Alan Reyes, Scarlet Frez, Matías Bravo-Zapata, Catalina Fuentes, Wendy Valenzuela and Héctor Fuentes, IDIEM, Chile

**17. (A74) Alternatives Study: Copper Tailings Disposal System for a Greenfield Project in the Brazilian Amazon**

Jean Lima, João da Costa, Henrique Guerzoni, Rafael Santos, Gustavo Belotto and José Costa, Vale Base Metals, Brazil; and Thiago Gomes and Elisa Silveira, DF+ Engineering, Brazil

**18. (A75) Comparative Assessment of the Liquefied Strength Ratio  $[(S)_{(u,liq)}/\sigma_{v0}^{\wedge}]$  from CPTu Correlations and Flow-Failure Case History Back-Analysis in Chilean Tailings Facilities**

Matías Morales, Sergio Carrasco, Cristian Monje and Gonzalo Suazo, Universidad Técnica Federico Santa María, Chile

**19. (A76) Estimation of the Site Effect for a Filtered Tailings Storage Facility and Its Influence on Physical Stability**

Katherine Ascencio, Compañía Minera del Pacífico, Chile; and Paz Esparza, Valeria Miranda and Héctor Huenchulao, E-Mining Technology, Chile

**20. (A80) Effect of Fines content on the Critical State Behaviour of Cycloned Tailings Sands**

Pedro Mendoza, David Rodríguez, Jaime Tello and Jorge Chávez, WSP, Peru; and Franklin Olaya, Pontificia Universidad Católica del Perú

**21. (A85) Comparative Analysis Between 2D and 3D Modelling of a Dam Cross-Section**

Mateus do Libano, Fernanda Martins and Danielle Araújo, Vale, Brazil

**22. (A88) Influence of Relative Density on the Cyclic Behaviour of a Sand-Like Foundation in a Tailings Dam**

Víctor Puyen, Sebastian Farfán, Brenda Carrasco and Pedro Mendoza, Ausenco, Peru

**23. (A94) Managed Access to Tailings Dams Under Emergency Level 2**

Danielle Araújo, Mateus do Libano, Fernanda Martins, Alexandre Cristino and Atila dos Santos, Vale, Brazil

**24. (A97) Chemical Environment Effects on the Long-Term Performance of Geogrids in Tailings Applications**

Lizeth Ardila and Cristina Schmidt, HUESKER, Brazil; and Oliver Detert, HUESKER, Germany

**25. (A98) Defining a Minimum Viable Solution (MVS) for Integrated Geotechnical Monitoring Systems Aligned with GISTM Requirements**

Danielle Menezes, BHP, Brazil

**26. (A101) Stochastic Characterization and Probabilistic Stability of a Tailings Dam on Lacustrine Clay**

Francesco Franco and Denys Parra, Anddes, Peru

**27. (A105) Quantified Geochemical Depletion: A Mass-Domain Reading of Humidity Cell Tests for Mine Closure**

Marcelo Rocco, Jesús Costa and Mckevin Canicoba, Anddes, Peru

- 28. (A106) Influence of Crest Width on the Stability of a TSF With Centerline-Raise Dam**  
Charbel Chapana, WSP, Chile; and José Ale, WSP, Peru

## GEOTECHNICAL ENGINEERING, DESIGN AND CONSTRUCTION OF WASTE ROCK DUMPS, STOCKPILES, AND MINING STOCKPILES

(5 articles)

- 1. (A47) Effect of Loading Protocol and Holding Time on Particle Breakage of Copper Tailings Sand Under High-Stress 1D Compression**  
Mauricio Vásquez and Sergio Carrasco, Universidad Técnica Federico Santa María, Chile
- 2. (A63) Hydrogeotechnical Modeling of a Waste Rock Pile in an Open Pit in the Cuadrilátero Ferrífero Region, Brazil**  
Hugo Alvarenga, Juan Huang, Marina Ribeiro, Water Services and Technologies, Brazil; and Rinaldo Afranio, Fabiane Ferrer, Camila Queiroz, Wesley de Souza and Frank Pereira, Vale, Brazil
- 3. (A77) Construction Quality Assurance (CQA) in Tailings Storage Facilities**  
Gustavo Vásquez, Camilo Cornejo, Matías Valenzuela and Gonzalo Jara, Stantec, Chile
- 4. (A82) Tailings Dam Post-Decharacterization Stability: Transient Flow and Numerical Limit Analysis**  
Carlos Conegundes, Guilherme Gomes, Universidade Federal de Ouro Preto, Brazil; and David Juajinoy, University of São Paulo, Brazil
- 5. (A93) Technological Management of a Filtered Tailings Pile Located in the Iron Quadrangle: Challenges and Opportunities**  
Rafaela Saar, Rodney Silva, Vera Nascimento and Elder Sant'anna, Vale, Brazil; and Wallace Barros, BVP, Brazil

## RHEOLOGICAL AND CHEMICAL ASPECTS

(1 article)

- 1. (A33) REE Mineralogy in Chilean Tailings: Nanoscale Identification Via Thin Section Preparation**  
Alejandra Álvarez, Isabel Gutiérrez, Luis Hume, J. Tapia, Tania Triviño, JRI, Chile; and Ximena Verges and Judit Lisoni, Universidad Austral, Chile

## HYDRAULICS AND TRANSPORT

(2 articles)

- 1. (A23) Application of FLOW 3D Tailings Module for TSF Failure Hydrographs and Volume Predictions**  
Adolfo de Resende, WSP, Australia
- 2. (A61) Assessment of USPED Model for Erosion and Deposition Mapping in Mining Waste Dumps**  
Bibiana Soares and André Rodrigues, Federal University of Minas Gerais, Brazil; Keila Dourado, Guilherme Rodrigues, Douglas Rodrigues, Barbara Batista and Antonio Fernandes, Vale, Brazil; and Francisco Rodrigues, Progen, Brazil

## SEEPAGE, WATER CONTROL AND WATER MANAGEMENT

(8 articles)

1. **(A12) Seepage, Water Control and Water Management in Tailings Facilities for Operational Continuity**  
Pablo Bustamante, MARA Project, Glencore, Chile
2. **(A20) Jet Grouting Seepage Barriers: An Alternative for Tailings Storage Facilities**  
Macarena Ayarza, Pilotes Terratest, Spain; and Christian González, Pilotes Terratest, Chile
3. **(A29) Accelerated Degradation of Steel Pipes Due to Seepage Leachates**  
Francisco Scheihing, Cristián Cortés and Ana Ramos, Ausenco, Chile
4. **(A35) Optimizing Tailings Management of Large TSFs with Implementation of Mechanical Consolidation and Dewatering**  
Oscar Santiago and William McAdam, Phibion, Australia; and Rafael Menezes, Phibion, Chile
5. **(A36) Application of Oxygen and Deuterium Isotopes in the Evaluation of Groundwater Flow in the Foundation of Tailings Storage Facilities**  
Cleveland Silva and Lucas dos Santos, Alcoa, Brazil
6. **(A55) Rainfall Infiltration in a Waste Rock and Tailings Pile: Case Study in Minas Gerais, Brazil**  
Daniel Henriques, Henrique Mendes, Gabriel Pereira, Ana Yoda, Tractebel Engie, Brazil; and Isabella Viel and Luiza Morais, Vale, Brazil
7. **(A58) Thickener Retrofits: Improving Performance of Existing Equipment**  
Fred Schoenbrunn, Schoenbrunn Consulting, USA; and James Chaponnel, GKD, USA
8. **(A68) Evaluation of Infiltration Zones and Drainage Performance Using 3D Transient Modeling in a TSF**  
Roxana Ugaz, Erick Alvarado, Arnold Quispe and Aldair Quispe, Water Waste and Land, Australia

## DESIGN AND STUDIES OF TAILINGS STORAGE FACILITIES (CONVENTIONAL, THICKENED, PASTE, FILTERED AND CENTRIFUGED)

(13 articles)

1. **(A05) Beyond Filter Presses: Exploring Sustainable Alternatives for Tailings Dry Stacking**  
Timo Dobler and Jürgen Hahn, Bokela, Germany
2. **(A07) Filtered Tailings: Risk Reduction Versus Risk Transfer**  
Nelson Amoah, SLR Consulting, Australia
3. **(A17) Stress-Strain Response to Paste Tailings Deposition Sequences: DEPIM Stage II Case Study**  
Nicolás Rodríguez, Grupo Minero Las Cenizas, Chile; Ricardo Valdebenito, Emmanuel Fuentealba, Gustavo Valdebenito, RVIA, Chile; and Adeline Delonca, Universidad Técnica Federico Santa María, Chile
4. **(A24) Analysis of the Mechanical Response of Compacted Iron Ore Tailings**  
Diego López, Júlio Azevedo, Sergio Marques, Nilo Consoli and Lucas Festugato, Universidade Federal do Rio Grande do Sul, Brazil; and Lessandro Franco, Marcus Dias, Dieggo dos Santos and Rodrigo Marinero, Vale, Brazil
5. **(A43) Applying Multiple Accounts Analysis for Tailings Storage Facility Site Selection**  
James Alcorn, Masood Kafash and Braden Error, AECOM, USA

6. **(A53) Comparison of Stress-Strain and Limit Equilibrium for a Waste Rock and Tailings Pile in Brazil**  
María Borba, Daniel Henriques, Ana Yoda and Douglas Coelho, Tractebel Engie, Brazil; and Bruna Braga, Vale, Brazil
7. **(A57) Cyclic Liquefaction Assessment for a Tailings and Waste Rock Pile Foundation in Brazil Based on SPT**  
Daniel Henriques, Maria Borba, Ana Yoda, Douglas Coelho, Tractebel Engie, Brazil; and Bruna Braga, Vale, Brazil
8. **(A59) Hypothetical Failure: A Tailings and Waste Rock Stack Break Study in the Iron Quadrangle, Brazil**  
Daniel Henriques, Maria Borba, Gabriel Pereira, Ana Yoda, Douglas Coelho, Tractebel Engie, Brazil; and Bruna Braga, Vale, Brazil
9. **(A71) Advances in Sustainable Tailings Management: The Synergy Between Polymerization and Dewatering in Closed Systems (Geotextile Tubes)**  
Danilo Sampaio, Huesker, Brazil; and Eduardo Guanaes and Denise Urashima, Federal Center for Technological Education of Minas Gerais, Brazil
10. **(A90) Review on the Evolution of the Implementation and Scaling of Filtered Tailings Technology**  
Carlos Cacciuttolo and Sergio Avendaño, Knight Piésold, Chile
11. **(A95) CPTu-Based Vs Prediction in Tailings: A Comparative Study**  
Rafael Piton, Ezequias Oliveira, Darlis Devise, Felipe Castro, Jaqueline Bertella, Vale, Brazil; Robert Nagai, GWS Engenharia, Brazil; and Helena Nierwinski, Federal University of Santa Catarina, Brazil
12. **(A102) Self-Consolidation Effects in Unsaturated Filtered Tailings**  
Miguela Cabañas, JRI Ingeniería, Chile
13. **(A110) First Industrial Pilot Tailings Filtration Plant Constructed at 4,700 m.a.s.l.**  
Carlos Meléndez, Miguel Ángel Moreno and Jorge Carranza, Minera Chinalco, Peru

## TAILINGS IN COMPLEX ENVIRONMENTS

(4 articles)

1. **(A02) From Global Liability to Circular Opportunity: The RRR Framework for Re-Mining, Re-Processing and Re-Purposing of Historic Tailings**  
Alexey Duarte, Fraser Alexander, Chile
2. **(A16) Plastic Concrete Cutoff Walls for Seepage Control in High-Permeability Soils: A Case Study in Tailings Dams**  
Christian González and Felipe Soto, Pilotes Terratest, Chile
3. **(A19) What Remains: Disaster Risk and Emergency Preparedness in a Chilean Mining Town**  
Nigel Wight, SMI Chile; and Jill Harris, Angelica Andrade and Deanna Kemp, CSRM, Sustainable Minerals Institute, University of Queensland, Australia
4. **(A41) Circular Economy Pathways for Tailings and Waste Rock: From Environmental Liabilities to Resources**  
Jéssica Castro, Sérgio Machado and Marco Antonio Casaes, Vale Base Metals, Brazil

## MONITORING, INSTRUMENTATION AND SURVEILLANCE TECHNOLOGIES

(8 articles)

1. **(A14) Validation of Calibration and Cross-Verification of Electric Piezometers during Reinforcement Works of an Iron Ore Containment Dike in the Quadrilátero Ferrífero Region: Minas Gerais, Brazil**  
Jarleson Andriao, Nathalia Sena and Rodrigo Peres, Vale, Brazil
2. **(A37) Use of Remote Monitoring and Artificial Intelligence to Optimize Piston-Diaphragm Pumps Availability**  
Unai Gamboa and Jorge Guerrero, ABEL, Spain; and Alexander Janzon, ABEL, Germany
3. **(A38) A Digital Platform for Instrument Monitoring & Surveillance: From Monitoring Alert to Resolution**  
Rohit Prabhu, Francis Magisson, Dassault Systèmes, Australia; Alastair Bovim, Insight Terra, South Africa; and José González, Dassault Systèmes, Chile
4. **(A69) Early Detection of Seepage Zones in Tailings Storage Facilities with Integrated Satellite Monitoring**  
Matías Fernández and Carola Sepúlveda, Worley, Chile
5. **(A79) A Three-Level Automated QA/QC Framework for Geotechnical Instrumentation Data in TSFs**  
Benjamín Latorre and Sergio Vergara, Velageo, Chile
6. **(A86) Field Evaluation of an IoT-Based GNSS Monitoring System Using LoRa Communication for Tailings Dams**  
Eduardo Diniz and María Alonso, Worldsensing, Brazil; Eduardo Castro and Alan Rodrigues, Tecwise, Brazil; and Tiago da Silva, Vale, Brazil
7. **(A107) Assessing the Internal Structure of a TSF with Ambient Noise**  
Miro Döring, Institute of Mine Seismology, Canada; and Ashley Morris, Institute of Mine Seismology, Australia
8. **(A108) InSAR-Based Risk Analysis for Proactive Tailings Dam Safety: The Cieneguita Failure Case Study in Mexico**  
Skevi Perdikou, Vipin Maurya, Bala Raju and Andrew Lees, GEOFEM, Cyprus

## DIGITAL TRANSFORMATION AND AUTOMATION IN TAILINGS

(2 articles)

1. **(A78) From Instrumentation to Intelligence: Predictive Models for Risk Management in Geotechnical Structures**  
João de Ávila and Bruno Martini, SYSDAM, Brazil; and Joaquim Pimenta de Ávila, and Giani Aragão, Pimenta de Ávila Consultoria, Brazil
2. **(A96) AutoML Framework for CPTu Data Interpretation Applied to Tailings Characterization**  
José Cidral, Ricardo Pfitscher and Helena Nierwinski, Federal University of Santa Catarina, Brazil; and Rafael Piton, Ezequias Oliveira and Marieli Biondo, Vale, Brazil

## GOVERNANCE, GISTM AND RISK MANAGEMENT

(18 articles)

1. **(A03) Brazil's ANM Ordinance 95 vs UNDRR Words into Action: A WMO Checklist Assessment**  
Thieres Rego, Vale, Brazil; and Carolina da Trindade, Universidade de Sao Paulo, Brazil

2. **(A08) Independent Auditing and Enforceable Governance in Tailings Dam Safety: Lessons from Brazil**  
Andressa Lanchotti, Minas Gerais State Prosecutor's Office (MPMG), Brazil
3. **(A09) Exploring the TSF Failure Record by TSF Status and Activity**  
Justin Willis, BHP, Australia
4. **(A13) Quality Indicators to Support Strategic Decisions in Tailings Dam Decharacterization**  
Bianca Seabra, Vale, Brazil
5. **(A21) A Stakeholder Mapping and Governance Framework for Democratic Tailings Management: The RESILMIN Approach**  
Elizabeth Lam, Ítalo Montofré, R. Rojas, Daniel Eyzaguirre, B. Fuentes and Fernando Álvarez, Universidad Católica del Norte, Chile; and Alex Godoy, Universidad del Desarrollo, Chile
6. **(A30) Prioritizing Tailings Dams Risks Using RBS and Fuzzy AHP**  
Gledson Miranda and Bruno de Lucena, Federal University of Pará, Brazil; and Claudionor Pinho, Leonardo Braga, Stefani Oliveira, Reginaldo Junior, Ronaldo Pantoja and Giselle Barbosa, Hydro Bauxite & Alumina, Brazil
7. **(A31) Improving Dam Safety Review Outcomes through Proactive Information Management**  
Jodie Kilpatrick, SLR Consulting, Australia; and Ezra Coyle, SLR Consulting, USA
8. **(A34) Lessons Learned from TARP Implementation in Tailings Storage Facilities**  
Germán Toledo, Mauricio Gómez and Patricio Chacón, Arcadis, Chile
9. **(A39) A Digital Platform Reimagining Governance and Risk Management: Integrated GISTM Compliance**  
Rohit Prabhu, Francis Magisson, Dassault Systèmes, Australia; Alastair Bovim, Insight Terra, South Africa; and José González, Dassault Systèmes, Chile
10. **(A40) Continuous Risk Management for Tailings Facilities to Support Decision Making under GISTM**  
Adrián Morales, Ignacio Escuder and Francisco García, iPresas, Spain; and Luis Altarejos, Technical University of Cartagena, Spain
11. **(A62) A Risk-Based Framework to Support Early-Stage GISTM Implementation**  
Víctor Tovar and Luis Coloma, SRK Consulting, Peru
12. **(A81) Predictive Modeling of Acid Drainage under Climate-Induced Hydrological**  
Jesús Costa, Mckevin Canicoba, L. Rivera, L. Contreras, D. Lucano, C. Iparraguirre and M. Rocco, Anddes, Peru
13. **(A83) Business Continuity Planning and GISTM as Drivers of Resilience in Mining: A Case Study in the Phosphate Industry**  
Frederico Viana, Vítor do Vale and Artur Bertone, HIDROBR, Brazil; and Vinícius Silva, Thiago Oliveira and Pedro Leite, MOSAIC, Brazil
14. **(A84) Practical Application of GISTM Requirements to Quality Management in Tailings Dam Construction**  
Bianca de Lacerda and E. Suski, Simplelab Tecnologia, Brazil; and Luciana Sakuma, Juliana Noronha and María Morais, Vale, Brazil
15. **(A89) Community Resilience in Tailings Areas: Framework and Policy Recommendations, Northern Chile**  
Fernando Álvarez, Elizabeth Lam, Ítalo Montofré, R. Rojas, Daniel Eyzaguirre and B. Fuentes, Universidad Católica del Norte, Chile; and Alex Godoy, Universidad del Desarrollo, Chile

**16. (A100) Risk Management in Multi-Dyke Tailings Storage Facilities**

Franco Sánchez, Anddes, Peru

**17. (A103) Tailings Governance as a Driver of Operational Resilience: A CEO-Level Framework to Integrate Risk, Water and Production Decisions in Mining**

Edgar Quiroz, Frame, Peru

**18. (A104) Socio-Environmental Implications of Mine Tailings Valorization**

Daniel Eyzaguirre, Elizabeth Lam, Ítalo Montofré, R. Rojas, B. Fuentes and Fernando Álvarez, Universidad Católica del Norte, Chile

## CASE STUDIES AND OPERATIONAL EXPERIENCES

(11 articles)

**1. (A04) Field Tests to Evaluate the Desiccation Processes for Bauxite Tailings**

Caio Marinho and Roldnei Candido, Mineração Rio do Norte, Brazil; and Tácio de Campos, Pontifical Catholic University of Rio de Janeiro, Brazil

**2. (A06) Using the Water Balance as a Decision-Making Tool: A Case Study**

María del Pilar Rico, Francisco Moyano and Santiago Pastine, SRK Consulting, Argentina

**3. (A10) Integrating Numerical Modelling with CPT-Based Seismic Liquefaction of Contractive Tailings**

Pouyan Abbasimaedeh, SLR Consulting, Australia

**4. (A25) Large, Larger, XL352 Disc Filter: From Idea to Production**

Jurgen Hahn, Timo Dobler and Halit Kilic, Bokela, Germany

**5. (A48) Operational Management of Filtered Bauxite Residue in High-Rainfall Areas**

Reginaldo César, Pedro Favacho, Eduardo Lima, Antônio Viana and Leonardo Braga, Hydro Bauxite & Alumina, Brazil

**6. (A54) Mine Drainage Prediction: A Case Study**

Julia Oliveira, Ausenco, Brazil; Lucas Cristóvão, CNH Industrial, Brazil; Ruberlan Silva, Maaden, Saudi Arabia; Cibele Konzen, Centro de Desenvolvimento da Tecnologia Nuclear (CDTN/CNEN), Brazil; and Lorena Guimarães, Vale, Brazil

**7. (A67) Strategy for Social Engagement of Communities in Pre-Drill Dam Simulations**

Flaviane Soares and Cristiane Paschoin, Nexa Resources, Brazil

**8. (A70) Numerical Representation of Post-Failure Mobility in a Mixed Tailings–Waste Rock Stack: A Comparative Back-Analysis of Different Approaches**

Stella Andrade, Nathália Goulart, Felipe Bernardi, Wesley de Souza, Vitor do Vale, Paula de Castro and Artur Bertone, HIDROBR, Brazil; and Renato Santo, Jaguar Mining, Brazil

**9. (A72) Circular Mining Colab: An Innovation-Promoting Environment for the Development of Circular Mining**

Jessica Caetano, Federal University of Minas Gerais, Brazil; and Laura de Araújo and Vinicius Romano, Vale, Brazil

**10. (A87) Visual Management and QA/QC for Dam Decharacterization: AngloGold Ashanti Case Study**

Bianca Lacerda, Simplelab Tecnologia, Brazil; and Gerlane Pereira, AngloGold Ashanti, Brazil

## 11. (A91) Pilot-Scale Production of Construction Materials from Mine Tailings: Lessons from the T2CM Process

Claudia Eugenin, Estefanía Loyola, Luis Morales, Iván Navarrete and Álvaro Videla, Pontificia Universidad Católica de Chile; and Felipe Vargas, Universidad Austral, Chile

## TAILINGS CLOSURE AND POST-CLOSURE MANAGEMENT

(8 articles)

### 1. (A15) Tailings Storage Closure and Post Closure: Unlock Opportunities During Ongoing Operations and Let the Economics Work

Anjan Kundu, GHD, Australia

### 2. (A18) Decharacterization of Upstream Tailings Dams: The Implications of Stress History for Tailings Behavior

Raphael Soares, São Carlos School of Engineering, Brazil; João Pedro Fieldman, Intertechne Consultores, Brazil; and Leonardo Machado, Jordan Lopes and Tadeu Torquato, University of Viçosa, Brazil

### 3. (A22) Disk Pelletization of Copper Mine Tailings as Lightweight Aggregates for Structural Concrete: Laboratory Assessment

Elizabeth Lam, Mathías Becerra, R. Rojas, V. Zetola, Ítalo Montofré, B. Keith and Fernando Álvarez, Universidad Católica del Norte, Chile

### 4. (A51) Use of a Terrain Evolution Model to Define Closure Measures for Tailings Storage Facilities

Alejandro Pizarro, Rodrigo Jiménez and Jean Paul Posch, SRK Consulting, Chile

### 5. (A52) A Comprehensive Review of Waste Rock Pile Closure Planning

María Borba, Daniel Henriques, Douglas Coêlho and Ana Yoda, Tractebel Engie, Brazil

### 6. (A56) Optimization of Tailings Facility Closure through Hydraulic Deposition and Beach Formation Control

Rafael Santos, Gustavo Belotto, João da Costa, Henrique Guerzoni, José Costa, Jean Lima, Vale Base Metals, Brazil; Vanessa Leme, Enzo Zucchi, GEOCOBA Projetos de Engenharia, Brazil; and Yara Martins, Kamili Sandrini and Roberto Junior, Walm BH Engenharia, Brazil

### 7. (A73) Integration of Closure Conditions into Multiple Account Analysis (MAA) for the Evaluation of TSFs Alternatives

Raphael Viola, Lucas Paglioto and Vitor Albuquerque, Klohn Crippen Berger, Brazil

### 8. (A109) Development of a Rainfall Simulator for Erosion Studies in Mining Areas

Jorge Zegarra, Cristina Barreto, Bibiana Soares and Edna Viana, Federal University of Minas Gerais, Brazil; Keila Dourado, Douglas Rodrigues, Guilherme Rodrigues, Barbara Batista, and Antônio Fernandes, Vale, Brazil; Francisco Rodrigues, Progen, Brazil

## ARTICLES DISTRIBUTION

### MINING COMPANIES

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Nexa Resources, Brazil (1)  
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Compañía Minera del Pacífico, Chile (1)  
AngloGold Ashanti, Brazil (1)  
Minera Chinalco, Peru (1)

### ENGINEERING AND CONSULTING COMPANIES

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Ausenco, Chile (1)  
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Pimenta de Ávila Consultoria, Brazil  
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GWS Engenharia, Brazil  
Huesker, Brazil (1)  
Huesker, Germany  
Frame, Peru (1)

## SUPPLIER COMPANIES

(10 articles)

Bokela, Germany (2)  
Pilotes Terratest, Chile (2)  
ABEL, Spain (1)  
ABEL, Germany  
AECOM, USA (1)  
CNH Industrial, Brazil  
GKD, USA  
Water Services and Technologies, Brazil  
Klohn Crippen Berger, Brazil (1)  
SYSDAM, Brazil (1)  
Simplelab Tecnologia, Brazil  
Worldsensing, Brazil  
GEOFEM, Cyprus (1)

## UNIVERSITIES AND RESEARCH

(13 articles)

Colorado School of Mines, USA (1)  
Universidade de Sao Paulo, Brazil  
Pontifical Catholic University of Rio de Janeiro, Brazil  
Universidad Técnica Federico Santa María, Chile (3)  
São Carlos School of Engineering, Brazil (1)  
University of Viçosa, Brazil  
SMI Chile (1)  
CSRM, Sustainable Minerals Institute, University of Queensland, Australia  
Universidad Católica del Norte, Chile (4)  
Universidad de Desarrollo, Chile  
Universidade Federal do Rio Grande do Sul, Brazil  
Universidad Nacional de Ingeniería, Peru  
Federal University of Pará, Brazil  
Universidad Austral, Chile  
University of Cartagena, Spain  
Universidad de Buenos Aires, Argentina  
Federal University of Minas Gerais, Brazil  
Universidade Federal do Ouro Preto, Brazil (1)  
IDIEM, Chile (1)  
Federal Center for Technological Education of Minas Gerais, Brazil  
Pontificia Universidad Católica del Perú  
Pontificia Universidad Católica de Chile (1)  
Federal University of Santa Catarina, Brazil

## STATE-OWNED INSTITUTIONS, NGOS AND GOVERNMENT AGENCIES

(2 articles)

Minas Gerais State Prosecutor's Office (MPMG), Brazil (1)  
Centro de Desenvolvimento da Tecnologia Nuclear (CDTN/CNEN), Brazil  
Institute of Mine Seismology, Canada (1)  
Institute of Mine Seismology, Australia