

Technical Program

Time Zone Santiago, Chile. GMT -4 | English-Spanish Interpretation Available in all Technical Sessions

Wednesday, September 3

→ **The parallel technical sessions will begin at 8:30 AM on Wednesday, September 3.** The session distribution and times will be announced soon.

INAUGURAL CEREMONY

Welcome Words

18:10

Mimy Mackenzie, Conference Manager, Gecamin, Chile

Hugo Quelopana, Tailings 2025 Program Director; Engineering Manager, Gestiona Consultores, Chile

Jacques Wiertz, Tailings 2025 Co-Organizer, Environmental Rehabilitation and Ecosystem Dynamics Team Leader, SMI-ICE-Chile, University of Queensland, Australia

Gonzalo Suazo, Tailings 2025 Co-Organizer; Assistant Professor of the Department of Civil Works, Universidad Técnica Federico Santa María, Chile

Priscilla Nelson, Tailings 2025 Co-Organizer, Professor, Department of Mining Engineering, Colorado School of Mines; Founder of The Tailings Center, USA

Opening Talk

19:10

"Resilient Tailings and Water Management: Driving Global Standards from Australia to the Andes" *(Title to be Confirmed)*

Pamela Soto, Manager Tailings & Water Australia, MMG, Australia

19:40



Welcome Reception

Thursday, September 4

PLENARY SESSION 1

ENG

11:00

"Tailings Stewardship at Scale: Integrating Risk, Innovation and Performance in Multinational Operations"

Reza Moghaddam, Global Practice Lead Tailings, Lundin Mining, Canada

lundin mining

SPA

11:30

"Integrated Strategy for High Reliability Tailings: Innovation and Governance at Las Bambas"

Erik Medina, Principal Tailings - Regional Strategic Planning, Minera Las Bambas MMG, Peru



PLENARY SESSION 2

ENG

12:20

"Vale Base Metals: Governance and GISTM Implementation"

José Wanderley Costa, Head of Geotech, Vale Base Metals, Canada



SPA

12:50

"Tailings 4.0: Smart Technologies for an Integrated and Resilient Life Cycle"

Claudio Román, Principal Geotechnical Engineer, Ausenco, Chile

Ausenco

Friday, September 5

PLENARY SESSION 3

SPA

11:00

“Capstone Copper's Tailings Management System: Insights, Outcomes, and Key Lessons”

Álvaro Gutiérrez, Tailings and Waste Corporate Manager, Capstone Copper, Chile



SPA

11:30

“Slope Stability with Complementary Approaches: From Deterministic Analysis to Reliability-Based”

Dennis Raddatz, Senior Geotechnical Engineer, Stantec, Chile



SPA

12:00

“Implementation of Tailings Management and Governance System: Difficulties and Challenges in Codelco's Tailings Facilities”

René Orellana, Corporate Tailings Manager, Codelco, Chile; and Carolina Reyes, Tailings Management Engineer, Codelco, Chile



Received Articles

(171 articles as of August 12th)

Represented Countries (21): Argentina, Australia, Brazil, Canada, Chile, Colombia, Costa Rica, Germany, Italy, Jordan, Mexico, Norway, Panama, Peru, Portugal, South Africa, Spain, Switzerland, The Netherlands, UK and USA.

GEOTECHNICS AND DAM SAFETY

(53 papers)

- (A01) Comparative Study of Stability Analyses in Tailings Dams Considering Peak and Residual Shear Strength Parameters**
Morgana Wegmann, Débora Chácara and Lara Nascimento, Norsk Hydro, Brazil
- (A07) CPT-Liquefaction Susceptibility Evaluation of Tailings**
Iván Contreras, Aaron Grosser and Dafar Obeidat, Barr Engineering, USA
- (A11) Proposed Approach to Select Earthquake Ground Motions in the Context of GISTM – Discussion Paper**
Marcelo Martínez, WSP, Argentina; and Alan Hull, Hull Seismic Review, USA
- (A13) Essential Geotechnical Considerations for Safer Tailings Storage Facility Design, Construction and Operation**
Bing Wang, Stantec, Chile
- (A14) Comparison of Cyclic Simple Shear Testing on Both Remolded and Undisturbed Mini-Block Samples**
Scott Lines, Nicolas Pereira and Adam Lines, Red Earth Engineering a Geosyntec Company, Australia
- (A16) 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
- (A19) Estimating In-Situ Void Ratio for Tailings Deposits using an Advanced Sampling Device**
Ray Wood, Fugro, UK; Peter Looijen and Veronica Suárez, Fugro, The Netherlands; and Oscar Vera and Marcelo Garrido, Fugro, Chile
- (A29) Granulometric Signatures as an Indicator for Transitional Behaviour in Tailings**
Isamil Okewale and Hendrick Gribler, University of Johannesburg, South Africa
- (A40) Comprehensive Approach for Developing Hypothetical Failure Study of Waste Dumps**
Jean Lucas Belo, Pedro Thá and Marcelo Miqueletto, Intertechne Consultores, Brazil

- 10. (A44) Failure Mode definition for a Tailings Storage Facility with complex configuration**
Marianne Neves, Vitor Aguiar, Fugro, Brazil; Guilherme Pepplow, Fugro, USA; and Willyan Debastiani, Vale, Brazil
- 11. (A52) Mine Waste Dumps and Earthquakes: Integrating Seismicity into the Lifecycle of Geotechnical Storage Facility**
Felipe Cruz, Raísla Gomes, Marina Secco and Yasmin Mansur, DF+ Engenharia, Brazil
- 12. (A61) 3D Modeling on the Analysis of the Causes and Performance of Corrective Measures for Pathologies in a Tailings Dam**
Pedro Thá, Raphael Soares, Rafael Modesto, Marcelo Miqueletto and Jean Lucas dos Passos Belo, Intertechne Consultores, Brazil
- 13. (A68) Lessons Learned in the Interpretation of SCPT on a Tailings Facility using the CSSM framework**
Jorge León and Claudia Vallejos, Knight Piésold, Chile
- 14. (A72) Case Study of the Emergency Level Rise of the B1 Ipê Dam**
Renato Fuan Jeha and Roberto da Cruz Trotta, Mineração Morro do Ipê, Brazil; Eduardo Diniz, WorldSensing, Brazil; and Márcio Fernandes Leão, Pontifical Catholic University of Rio de Janeiro, Brazil
- 15. (A73) Evaluation of Rheological Test Methodologies for Clayey Silt: Physical and Numerical Modelling Validation Approach**
Renathielly Brunetta, Jéssica Souza, Vitória Pfaffensteller, Marcos Palu and José Pretto, Fugro, Brazil; and Willyan Debastiani, Vale, Brazil
- 16. (A74) Seismic Performance Assessment of Filtered Cake Stack: Design Optimization**
Marjan Oboudi, Linda Lau and Rafael Dávila, Hatch, Canada
- 17. (A76) Innovations for the Future of Tailings and Waste Disposal in Piles**
Eduardo Diniz and Pedro Abreu, WorldSensing, Brazil; and Márcio Leão, Pontifical Catholic University of Rio de Janeiro, Brazil
- 18. (A77) Complementary Monitoring of Tailings Storage Facilities: Leveraging Insar and Ground Surveys**
Lucas Carvalho and Ben Conway, Viridien, UK
- 19. (A81) Numerical Analysis of Liquefaction in Tailings Dams Using PM4Sand and PM4Silt**
Nicolás Di Giovanni, Felipe López and Rafael Iglesias, WSP, Argentina
- 20. (A83) The Use of Artificial Intelligence and Pressuremeter Tests in Tailings Design**
Rafael Martínez, José Quiroz and Maximiliano Jara, Pangea Geotecnia, Chile
- 21. (A86) Numerical Modeling of Runout Distance Through Multiphase Models**
Rodolfo Morales, JRI Ingeniería, Chile; Felipe Macias, Emmanuel Fuentealba, Diego Tejo, Francisco Contreras and Iván Lagos, Universidad Técnica Federico Santa María, Chile

- 22. (A89) Evaluation of the runout of the Cadia TSF Failure Using the Modified Voellmy-Salm Rheological Model**
Jimmy Tapia, Universidad Nacional de Ingeniería, Peru; and Laura Rojas, Jean Minaya and Alex Huarcaya, Ausenco, Peru
- 23. (A90) Innovation and Evaluation of Tailings Storage Facilities: Methodology and 3D Limit Equilibrium Models for Complex Scenarios**
Bastián Rojas and Ignacio Escudero, Seequent, Chile; Rolando Moraga, Punta del Cobre, Chile
- 24. (A91) Geotextile Tubes in the Construction of Dikes for Tailings Management**
Lizeth Ardila and Eduardo Guanaes, HUESKER, Brazil; Morné Breytenbach, HUESKER, Australia; and Marie-Therese van Keßel, HUESKER, Germany
- 25. (A97) General Recommendations for the Construction Records**
Victor Aravena, José Campaña and Jaime Urquidi, ARCADIS, Chile.
- 26. (A103) Parameter Calibration of Water Balance Model of a Near Closure TSF – Sossego Mine**
Henrique Guerzoni, Gustavo Belotto, Rafael M. Santos, João P. R. da Costa, José Wanderley, Vale, Brazil; Guilherme Brigagão Monteiro de Castro, GEOCOBA, Brazil
- 27. (A104) Proposed matrix for selecting mining tailings disposal technology in the Brazilian Amazon**
Jean Lima, Carlos Lima, João da Costa, Gustavo Belotto, Henrique Guerzoni, Felipe Barbosa, José Wanderley, Rafael M. Santos, Vale, Brazil; Gustavo Nogueira, WALM Engenharia, Brazil
- 28. (A105) Influence of hydraulic segregation on geomechanical behavior of copper tailings – Salobo Mine**
Carlos Lima, Henrique Guerzoni, João da Costa, Gustavo Belotto, Felipe Barbosa, José Wanderley, Juliano Ferreira, Jean Lima and Rafael Santos, Vale, Brazil
- 29. (A110) Evaluation of Liquefaction Susceptibility in Coarse Tailings Using CPTu and Triaxial Tests**
Erika Pariona and Jorge Anaya, National University of Engineering, Peru; Miguel Diaz, National Autonomous University of Mexico
- 30. (A111) Tailings Dam Breach Modelling: A Comparison Between HEC-RAS and FLO-2D Based on a Realworld case study**
Fernanda Gallegos, Cristóbal Delgado and Valentina Pacheco, GHD, Chile
- 31. (A114) Evaluation of undrained shear strength in fine tailings using CPTu and VST**
Raul Malacas and Jorge Anaya, National University of Engineering, Peru; Miguel Diaz, National Autonomous University of Mexico

- 32. (A116) Numerical Deformation Analysis of a 100 m High Tailings Dam: Validation Against Instrumentation Data**
Eric Krumm, BGC Engineering, Chile; Saman Zarnani, BGC Engineering, Canada
- 33. (A117) Analysis of Radar Cross Section (RCS) Variability of Moving Targets in a Mining Dam and Its Implications for Automatic Siren Activation by Doppler Radar**
Diego Lage, Beatriz Clemente and Pamela Lisboa Vale, Brazil; Vitor Santos, GroundProbe, Brazil
- 34. (A118) Comparative SPT Energy Evaluation in Automated Systems for Safer Tailings Structures Design**
Rafael Cristiano Piton, Ezequias Oliveira and Marieli Biondo, Vale, Brazil; Guilherme Freitas and Carlos Ribeiro, Geocontrole, Brazil; Helena Paula Nierwinski, Federal University of Santa Catarina (UFSC), Brazil
- 35. (A120) Sensitivity-Based Geotechnical Assessment of a TSF with Complex Foundation Conditions and Non-Conventional Upstream Raises: A Case Study**
Alejandro Calvo and Diego Cobos, SRK Consulting, Colombia
- 36. (A124) Behavior of Reconstituted and Undisturbed Tailings Samples: Implications for Liquefaction Assessment**
David Camacho and Paulo Coelho, University of Coimbra, Portugal; Felipe Gobbi Silveira, FGS Geotecnia, Brazil
- 37. (A129) Design of a Geosynthetic-Reinforced Wall for Tailings Containment**
Andrés León, Axios Engineering SpA, Chile; Daniel Zúñiga, University of Chile
- 38. (A131) Application of Digital Engineering in the Technological Control of Tailings Dam Decharacterization Works**
Naiara de Lima, Mariana Duarte, Thiago Ribeiro, Rogério Torres, Emerson Vieira, Terêncio Rocha, Guilherme Mesquita, Vanessa Guimarães, Vale, Brazil
- 39. (A135) Geochemical and mineralogical attributes of iron tailings with transitional behaviour considering sample preparation methods**
Ismail Adeniyi Okewale, Hendrik Grobler and Antoine Mulaba-bafubiandi, University of Johannesburg, South Africa
- 40. (A139) Geotechnical Study and Compaction Procedures in the Mutum Dam: A Case Study**
Cintia Sena, Coopersanta, Brazil; Eduardo Diniz, Worldsensing, Brazil; Marcio Leão, PUC-Rio, Brazil; and Maria Mateus, CheckSlope, Brazil
- 41. (A148) Characterisation of Tunnel-Generating Materials in Arid Regions Used as Construction Material in Tailings Storage Facilities**
Laura Moreno and Marcelo Llano, Red Earth Engineering, Australia

42. **(A158) Effect of Mud Farming and Drying on Shear Strength of Bauxite Tailings**
Shriram Srinivasan and Min Kyaw, Alcoa, Australia; and David Reid, Red Earth Engineering, Australia

43. **(A163) Potential for Extending the Service Life of Tailings Dam Reservoirs Through the Reprocessing of Deposited Material**
Luiz Bahia, Douglas Souza and Sarah Luiz, Geoestável Consultoria e Projetos, Brazil; Jeferson Machado and Leonardo Franco, Progen, Brazil; and Matheus Muniz and Andréa Portes, Vale, Brazil

44. **(A167) Study of Hypothetical Failure in a Filtered Iron Ore Tailings Stack**
André Lima, Nathani Zampiroli and Ricardo Espósito, TPF Engenharia, Brazil; and Leonardo Machado and Tadeu Torquato, Universidade Federal de Viçosa, Brazil

45. **(A173) Developing the VSTu test for tailings in-situ shear strength measurement. Part 1: Design**
Javier Ubilla, Nava Consulting, Chile

46. **(A177) Modeling the Evolution of Pore Pressure of Dykes Founded on Conventional Tailings Deposits**
Antonio Esteban and Rodolfo Morales, JRI Ingeniería, Chile; and Aldo Tamburrino, Universidad de Chile

47. **(A180) Embracing Uncertainty: A Bayesian Approach to Tailings Dam Design in Tropical Environments**
Darym Campos, José Veras and Denis Costa, Progen, Brazil; and Fernanda Sol, Stephanie Ferreira, Murilo Borges and Paulo Gomide, Vale, Brazil

48. **(A183) A Revised Constitutive Model for the Undrained Response of Tailings**
Anibal Rios, Franklin Olaya and Frank Pérez, WSP, Peru

49. **(A185) A Simplified Model for Estimating the Soil-Water Characteristic Curve of Mining Tailings**
Jaime Musso and Gonzalo Suazo, GHD, Chile

50. **(A186) A Methodological Framework for Experimental Design and Validation of Waste Rock–Tailings Mixtures in the Context of the Commingling Technique**
Nicolás Bustamante and Gonzalo Suazo, Universidad Federico Santa María, Chile

51. **(A187) Physical Characterization and Undrained Behaviour of a Lateritic Soil from The Brazilian Iron Quadrangle**
Rodolfo Neves, Andréa Portes and Paulo Gomide, Vale, Brazil; and Mateus Silva, Progen, Brazil

52. **(A193) Selection of Earthquake Ground Motion for Tailings Facilities Using Conditional Mean Spectrum**
Mohammad Bakavoli, BBA Consultants, Canada

53. **(A194) 3D Seismic Deformation Analysis of a Filtered Tailings Storage Facility under Andean Conditions**
José Sierra and Frank Pérez, WSP, Peru

HYDRAULICS AND TRANSPORTATION

(7 papers)

1. **(A33) Hydraulic Safety in Dam Decharacterization: Hydrological Risk Assessment, Average Return Interval and Temporary Solutions**
Marina Oliveira, Klohn Crippen Berger, Brazil; and Jim Heaslop, Klohn Crippen Berger, Australia

2. **(A41) The Role of Rheology Tests in The Design and Operation of Long-Distance Slurry Transport Systems**
Cristian Giner, Gonzalo Laciari and Cristian Bertolo, Knight Piésold, Argentina; and Stuart Flett and Alexander Manos, Knight Piésold, USA

3. **(A47) Challenges of Tailings Transport Pumping Systems in Negative Static Head Applications**
Cristian Bertolo, Cristian Giner and Gonzalo Laciari, Knight Piésold, Argentina

4. **(A49) Hydraulic Evaluation of Tailings Transport Systems in Mountainous Terrain: Density Wave Analysis**
Alexander Manos and Stuart Flett, Knight Piésold, USA; and Cristian Giner, Knight Piésold, Argentina

5. **(A92) A Successful Collaboration Used to Create a Novel Filtered Tailings Transportation and Placement Method**
Rajko Josipovic, Rio Tinto, Australia; Tony Tran, BHP, Australia; Todd Wisdom, Paterson & Cooke, USA; Gabriel Moniz, BEUMER Group, USA; Waldo Dressel, Red Earth Engineering, Australia

6. **(A140) Hydraulic Performance Evaluation and Optimization of Tailings Transport and Deposition System with Dissipation Rings**
Mario Segovia, Edison López and Guido Huilca, WSP, Peru

7. **(A157) Mathematical Correlation for Determining Required Depth to Dissipate Inflow in a Mineral Slurry Box by Using CFD**
Leonardo Olavarría and Ray Martinson, Paterson & Cooke, Chile

SEEPAGE AND WATER MANAGEMENT

(12 papers)

1. **(A12) Cut-Off Wall Construction in High Salinity Environment at The Dead Sea in Jordan: The Right Tailored Solution**
Michael Baltruschat and Esteban Venegas, BAUER Spezialtiefbau, Germany; Georges Abdo, BAUER International, Jordan; and Mazin Adnan, BAUER Spezialtiefbau, Jordan
2. **(A22) Structural Optimization of Modular Barges for Water Recovery in Tailings: The San Rafael Mine Case**
Yonatan Luque, Hidrostal, Peru
3. **(A27) Merged Approach to Optimize Water Management and Tailings Storage Capacity at the San Ciprián TSF**
Iván Orea, ALCOA, Australia; and Carmen Rial, ALCOA, Spain
4. **(A38) A Comparative Study of 2D and 3D Transient Infiltration Analyses in a Tailings Dam**
Roxana Ugaz, Erick Alvarado, Arnold Quispe and Aldair Quispe, Water Waste and Land, Australia
5. **(A85) Hydrogeochemical Evaluation of Hydraulic Barriers Composed of Solid Residues from Pulp Production**
Mauricio Jara, Universidad Mayor, Chile; David Zamora, Universidad Católica del Maule, Chile; Fernando Ramírez, Bioforest, Chile; and Joaquín Díaz, Universidad de Talca, Chile
6. **(A100) Geomembrane-Sealed Tailings Dam: Advancements at Las Bambas GFRD**
Pascual Perazzo, Carpi Tech, Chile; Gabriella Vaschetti, Carpi Tech, Switzerland
7. **(A169) Water management in the process of Decharacterizing the Reservoir in an Upstream Tailings Dam**
Luciana Sakuma, Maria Morais, Marcus Rolim, Wanderson Victor e Cristiane Sebastião, Vale, Brazil
8. **(A175) Petrophysical Estimation of Moisture Values in Tailings Deposits Using Electrical Resistivity Tomography**
Aaron Moya and Igor Bravo, Geosinergia, Chile; Diana Comte, Daniel Díaz, Brian Townley, Universidad de Chile; and Adrien Dimech, École de Technologie Supérieure, Canada

9. **(A188) Modeling the Propagation of Mining Slurry Spills: Effects of rheology, Discharge Conditions and Topography**
Cristian Reyes and Christian Ihle, SHIMIN Ingeniería, Chile
10. **(A195) Enhancing HDS Performance Through Vertical Drainage: Laboratory Testing**
Nicolás Bustamante, Jaime Musso and Gonzalo Suazo, Universidad Técnica Federico Santa María, Chile; Phil Newman, Anglo American, UK; and Andrea López, Anglo American, Chile
11. **(A203) Hydraulic Dewatered Stacking Demonstration: Site Characterization Campaign**
Ray Wood, Fugro, USA; Phil Newman, Anglo American, UK; Andrea López, Anglo American, Chile; and Marcelo Garrido, Fugro, Chile
12. **(A204) Design Optimization of the Los Diques TSF Dams Filter Material**
Maximiliano Thollander, Minera Candelaria, Chile; and Alejandra Neira and Susana Cornejo, WSP, Chile

CONVENTIONAL TAILINGS DESIGN AND STUDIES

(10 papers)

1. **(A02) Adaptive Design and Construction of Henty's TSF: Balancing Material Constraints and Stability**
Mauricio Medina, GHD, Australia; and Nicolás de la Maza and Matías Silva, GHD, Chile
2. **(A56) Comparison of changes in-situ State and Behavior of Compacted and Non-Compacted Silty-Sand Tailings**
Matheus Rabelo, Emanuel Silveira, Roberto Silva, Domenico Gontijo and Thaís Lazarim, WSP, Brazil
3. **(A87) Sampling of Tailings Dam Walls**
Cristian Belmont and Rodolfo Morales, Enrique Siu and Hengels Castillo, JRI Ingeniería, Chile
4. **(A88) Modelling the Effect of Spatial Variability in Tailings Shear Strength on Slope Stability**
Zharry Bueno, University of Brasília, Brazil; and Ariadne Silva and Thiago Bretas, TBretas Consultoria, Brazil
5. **(A106) Evaluation of the Critical State Line of Phosphate Ore Tailings**
Júnio René Fagundes, Naiala Fidelis Gomes and Felipe Souza Cruz, DF+ Engenharia, Brazil; Thiago Moura de Queiroz e Oliveira and Ewerton Aparecido Rodrigues, The Mosaic Company, Brazil
6. **(A112) Seismic Loading – Comparison Between Pseudo-Static Analysis Based on Assumpção's Map and the Bray & Macedo Methodology – A Case Study**
Daliana Possari and Isabella Viel, Vale, Brazil; Bruna Braga, Progen S.A, Brazil; Henrique Mendes, Maria Eduarda Borba and Ana Lúcia Yoda, Tractebel, Brazil

7. **(A127) 3D Analysis of Progressive Failures in Tailings Stack**
Airtón Neto, Ariadne Silva and Thiago Bretas, TBretas Consultoria, Brazil; Zharry Bueno, University of Brasília, Brazil; Thales Furtado, Federal University of do Rio de Janeiro, Brazil

8. **(A128) Tailings Design and Management in Cold Regions of the Andes: Challenges and Strategies**
Lukas Arenson, BGC Engineering, Canada; Daniela Welkner, Alan Edmunds and Jorge Troncoso, BGC Engineering, Chile

9. **(A144) Hydraulic Analysis of Tailings Transport in Rectangular Channels: Influence of the Manning Coefficient**
José Vidal and Ricardo Romero, WSP, Peru

10. **(A192) Practical Progress in Tailings Beach Slope Prediction: An Updated Empirical Model with Integrated Field Data and Probabilistic Enhancement**
Hugo Quelopana, Gestiona Constultores, Chile

THICKENED AND PASTE TAILINGS DESIGN AND STUDIES

(6 papers)

1. **(A05) Revisiting water stewarding strategies**
Kari Heiskanen, Eija Saari and Veli-Matti Järvinen, Metso Minerals, Finland; and Lars Grövall, Metso Minerals, Sweden

2. **(A23) Numerical Modeling of Underground Stope Stability Using Paste Tailings for Sustainable Mining Design**
Ricardo Valdebenito, Emmanuel Fuentealba, Francisco González and Gustavo Valdebenito, RVIA, Chile; and Adeline Delonca, Universidad Técnica Federico Santa María, Chile

3. **(A59) Optimizing Tailings Management in Dams through Integrated Modeling with GoldSim and Muk3D**
Vinicius de Oliveira, Roberto Silva and Sabrina Gonçalves, WSP, Brazil; and Paulo Castro, GeoMerry, Brazil

4. **(A84) Development of a Record-breaking Paste Thickener**
Sergio Rios, Mauricio Villanueva, Eduardo Salas and Julio García, Southern Cone Technology, Chile; and Carlos Peña, CPL Ingeniería, Chile

5. **(A99) Radflow Feedwell – New Step on Thickening**
Diego Rubio, Roytec Global, Chile; and Peter Sampson, Roytec Global, Canada

6. **(A189) Characterization of Material from a Waste Rock Pile for Application in Dam Reinforcement**
Deyse Rosa, Instituto Minere, Brazil; Marcio Leão, Pontifical Catholic University of Rio de Janeiro, Brazil; and Eduardo Diniz, CheckSlope, Brazil

FILTERED AND CENTRIFUGED TAILINGS DESIGN AND STUDIES

(14 papers)

1. **(A05) Capex and Opex Reduction when Filtering Fine and Coarse Tailing Fractions Separately**
Jurgen Hahn and Timo Dobler, Bokela, Germany
2. **(A08) Filter Press as Solution for Tailings Dewatering: Slurry Characteristics and Their Impact on the Process Tuning**
Andrea Grosso and Francesco Kaswalder, Diemme Filtration, Italy
3. **(A25) Flow Failure of Filtered Tailings Under Monotonic Loading**
Brahian Román Cabrera and Martín Villanueva, SRK Consulting, Peru
4. **(A26) Filter Fabric Performance in Tailings Filtration: The Role of Composition and Rheology**
Gabriela Couto, Valmet, Brazil; and Edimar Dias, Gerdau Mineração, Brazil
5. **(A48) Runout Modelling of a Dry Stack Tailings After a Liquefaction Event Using the Material Point Method**
Mikael da Silva, Carla Pontes and Vitor Aguiar, Fugro, Brazil; and Willyan Debastiani, Vale, Brazil
6. **(A50) Quality Control of a Tailings Dry Stack Pile using CPTu Tests: A Case Study**
Marcus Dias, Mariela Silva, Diego Santos and Ana Marinho, Vale, Brazil
7. **(A130) Dam Break Analysis and Runout Distance Estimation for Risk Management in Filtered Tailings Deposit**
Andrés León and Daniel Zúñiga, Axios Engineering SpA, Chile; Claudio Piñones, Independent Consultant, Chile
8. **(A154) Performance of Compacted Sandy Tailings Below Optimum Moisture: Advances Toward Sustainable Mining**
Magno André, Jonas Oliveira, Vale, Brazil; and Sara dos Santos and Lucas Redoan, Progen, Brazil

9. **(A156) Filtered Dry Stack Tailings: A Comparison Between Non-Controlled Experimental Embankments and Current Operation**
Andréa Portes, Matheus Muniz, Marcus Dias, Dieggo dos Santos and Rodolfo Neves, Vale, Brazil; and Mateus Silva, Progen, Brazil
10. **(A162) Theoretical Study for Tailings Stacks Maximum Height Evaluation**
Sylvia Jesus, Isabella de Souza, Anselmo Mendes, Sálefe Xavier, Nilthson Noreña and Alessandra Teixeira, Vale, Brazil; and Luana Schulz, Thiago Souza and Washington da Silva, BVP, Brazil
11. **(A179) Method for Determining the Minimum Void Ratio by Controlled Volume**
João Tavares, Daliana Possari and Rubia Borges, Vale, Brazil; Guilherme Valentim, Progen, Brazil; and Otarcione Cesário, Diefra Soluções em Engenharia, Brazil
12. **(A190) Integration HDS with Coarse Particle Flotation (CPF)**
Katherine Mansilla, Javier Vergara and Rodrigo Zapata, BBA Consultants, Chile
13. **(A197) Operation and Control Parameters of a Filtered Tailings Deposit during the Deposition Stage**
Elizabeth Díaz, Cristian Farías and Katherine Ascencio, Compañía Minera del Pacífico, Chile
14. **(A199) Dry Stacking of the Samarco Filtered Tailings Sand**
Wanderson Silverio, Domingos Neto and Viviane Rezende, Samarco, Brazil

TECHNOLOGIES AND INSTRUMENTATION FOR MONITORING AND SURVEILLANCE

(20 papers)

1. **(A04) Real-Time Resistivity for Water Related Process Monitoring in TSF: Case Study from South Africa**
Greta Tresoldi, LSI Lastem, Italy; Azadeh Hojat, Regina Bianchi and Luigi Zanzi, Politecnico di Milano, Italy
2. **(A20) Dense 3D Characterisation of Tailings Dams for Engineering and Safety Performance**
Rod Eddies and Stephane Sol, Fugro, The Netherlands; Ray Wood and David Valintine, Fugro, USA; and Marcelo Garrido, Fugro, Chile
3. **(A32) A Combined Approach for RTM and Structural Health Evaluation of Tailings Dams**
Maren Katterbach, Lombardi Engineering, Switzerland; Cristian Scapozza, Sebastiano Schutz, Fatlind Hajdaj and Samuel Poretti, University of Applied Sciences and Arts of Southern Switzerland, Switzerland; and Roberto Gardenghi, Huggenberger, Switzerland

- 4. (A35) Innovative TSF Monitoring with SARDrone: Daily 3D Displacement Insights without Geometric Constraints**
Javier Duro, Gerard Ruiz, Marc Cuenca, Luis Yam, Gerard Masalias, Eduard Makhoul, Ruben Iglesias, Antonio Heredia, Álex González, Giuseppe Centolanza, Azadeh Faridi, Dani Monells and Fernando Chacon, Dares Technology, Spain
- 5. (A39) Improving Tailings Management with Multi-Method Survey Integration at Teck Red Dog**
Marlin Arocha and Veronique Nell, Photosat, Canada; and Adam Chiorando, Tyler Oester, Teck Resources, Canada
- 6. (A51) Seismic Interferometry Monitoring for Tailings Storage Facilities**
Rodrigo Fuentes, Benjamin Witten and Camilla Rodrigues, Nanometrics, Canada
- 7. (A54) Use of Remote Monitoring and Artificial Intelligence to Optimize Piston-Diaphragm Pumps Availability**
Unai Gamboa and Jorge Guerrero, Abel, Spain; Alexander Janzon, Abel, Germany; and Nicolás Ponce, Tecfluid, Chile
- 8. (A57) A Small Guide to Seismic Techniques Application in Mining Areas**
Camilla Rodrigues, Mark Novakovic, Benjamin Witten and Rodrigo Fuentes, Nanometrics, Canada
- 9. (A62) Innovation in Tailings Supervision: Implementation of a Digital Platform for Integrated Risk Management**
Consuelo Rodríguez, Abraham Figueroa and Benjamín Latorre, Arcadis, Chile
- 10. (A69) Laboratory Tests to Assess the Reliability of Vibrating Wire Piezometers for Geotechnical Monitoring**
Nicolás Guzmán, WSP, Chile; Roberto Gesche, Stantec, Chile; and Sebastián Fingerhuth, Pontificia Universidad Católica de Valparaíso, Chile
- 11. (A79) Improvements to Spectral Classification Algorithms for Tailings Storage Facility Monitoring Using Multispectral Satellite Imagery**
Felipe Altamirano and Gonzalo Suazo, Universidad Técnica Federico Santa María, Chile; and Victor Araya, GHD, Chile
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Liliana Vergara and Nilson Saldía, Mantoverde, Capstone Copper, Chile; and Alejo Gutiérrez, Capstone Copper, Canada

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Samuel Cuellar, Yerko Alvial and Hugo Quelopana, Gestiona Consultores, Chile; and
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Victor Rocha, Alessandro Santana, Artidório Santana, Lauro Silva and Márcia Palhares, Vale, Brazil; and Victor Teodoro, Progen, Brazil
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Bruna Braga, Progen, Brazil; Alison Norberto, Leandro Amaral, Maria Clara Rodrigues and Fernanda Gavioli, TPF Engenharia, Brazil; and João Tavares and Daliana Possari, Vale, Brazil
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