

# RECEIVED ABSTRACTS

(159 abstracts as of March 13<sup>th</sup>)

**Represented Countries (20):** Argentina, Australia, Brazil, Canada, Chile, Colombia, Ecuador, Finland, Germany, Italy, Israel, Mexico, Peru, Portugal, Saudi Arabia, Spain, Switzerland, The Netherlands, United Kingdom and USA

**Geotechnics and Dam Safety**

(68 abstracts)

**(A08) New Approach to Estimate the Maximum Credible Earthquake (MCE) for Critical Mine Waste Facilities**

Marcelo Martínez, Donald Lowry and Alan Hull, WSP Golder, Argentina, USA

**(A10) A Holistic Approach to Improve Tailings Dam Monitoring**

Andrea Bartoli, Juan Perez, Xavi Vilajosana and Victor Salinas, Worldsensing, Spain

**(A11) Application of the Bray et al. Methodology for Seismic Coefficient Estimation for Tailings Dams Analysis in Chile**

Luis Ríos, Julio Tejo and Pablo Galdeano, WSP Golder, Anglo American, Chile

**(A13) Common Challenges for Tailings Surveying Measurements and Their Impacts on Management of a TSF**

Jim Turner, Sam Rivet and Jon Engels, Photosat information, Tailpro Consulting, Canada, Chile

**(A19) Numerical Simulation of Flow Liquefaction: Application of the Critical State Theory**

Omar de Santiago, M.A. Mánica and E. Ovando, SRK Consulting, Universidad Nacional Autónoma de México, México

**(A22) Probabilistic Pseudo-Static Analysis of a Tailings Dam Considering the Operation Time**

Daniel Guzmán, Alex Aburto, Cesar Pastén and Pablo Heresi, Stantec, Universidad de Chile, UTFSM, Chile

**(A23) Salt-Cemented Soils: Geotechnical Characterization for a Tailings Dam Embankment: A Case Study**

César Ahumada, Isaac Jeldes and Alan Figueroa, Stantec, Chile

**(A28) Centerline Dam - Case Study: 2D and 3D Percolation and Stability Analysis**

Francisco Souza, S. Raika Katuscia, J. Fabre and M. Barra, DF+ Engenharia, Brazil

**(A30) Post-Failure Modelling of Las Palmas Tailings Dam with the Material Point Method**

Luis Lemus, Jaime Rodríguez, Andrea Bravo and Bryan Harris, Universidad de La Serena, Universitat Politècnica de Catalunya, Chile, Spain

**(A35) Assessment of Tailings Dams' Earthquake-Induced Displacements: The Effect of Soil Constitutive Model**

Diego Inzunza, Diego Pavez and César Pastén, WSP E&I Chile

**(A38) Estimation of Volumetric Strain by Cyclic Loads Insands: Example of Application in a Tailings Dam**

Diego Pavez, Jethro Ulacia, César Pastén, WSP E&I Chile

**(A39) Undrained Shear Strength Characterization of a Bauxite Mining Tailing**

Guilherme Pinto, Pimenta de Ávila Consultoria, Brazil

**(A40) Regional Predictive Analysis of Shear-Induced Seismic Displacements in Tailings Storage Facilities**

René Calvente, Juan Mussat and Alejandro Verri, SRK Consulting, Argentina

**(A41) Nonlinear Analysis for a Filtered Tailings Storage Facility in a Highly Seismic Area in Peru Using Liquefaction Constitutive Models**

Cristian Erazo, Frank Perez and Rafael Luna, WSP Golder, Peru

**(A42) Characterization of the Undrained Residual Response of Copper Tailings**

Nicolás Hormazábal and Gonzalo Suazo, UTFSM, Chile

**(A48) Statistical Spatial Characterization of an Iron Ore Tailings Reservoir**

Isabelle Silva and Ian Paes, Vale, DF+ Engenharia, Brazil

**(A49) Stabilization of Iron Tailings with Alkali Activated Binders**

Isabela Caetano, Sara Rios and António Fonseca, Universidade do Porto – FEUP, Brazil

**(A50) Evaluation of the Geotechnical Effect of Filtered Tailings with Lime and Cement Amendment**

Jaime Castro, Diego Cobos and Ana Ariza, SRK Consulting, Colombia

**(A51) Operational Control and Trigger Action Response Plan (TARP) for a Tailing Storage Facility (TSF)**

Alejandro Calvo, Laura Moreno, Manuel Cervantes, Diego Cobos and Ignacio García, SRK Consulting, Colombia, Mexico, Canada

**(A53) Risk Analysis Based in ALARP Concept in Tailings Dams**

Pablo Ossa, Juan Pablo Alarcón and Julio Tejo, WSP Golder, Chile

**(A55) A Probabilistic Methodology for DBA and Its Comparison to Current Methods**

Francisco Moyano and Federico Giurich, SRK Consulting, Argentina

**(A56) Reinforcement of Tailings Dam Foundation Soil Using the Soil Mixing Technique**

Mario Colil, Christian González and Aldo Guzmán, Pilotes Terratest, Chile

**(A57) Study of Mechanical Behavior Improvement of Dry Stacked Tailings Based on Field and Laboratory Tests**

Lucio Yamamoto, Juliana Moura, Victor Rocha, Maria Boscov, Felipe Russo and Gustavo Sousa, University of São Paulo, Vale, CEFET Araxá, UFBA, Brazil

**(A60) Assessment of Liquefied Shear Strength of Tailings from CPTu and Triaxial CU Tests**

Jorge Anaya and Miguel Diaz, Lara Consulting Engineering, University of Applied Science, Peru

**(A64) Effect of Saline Soil Collapse on The Physical Stability of Tailings Deposits**

Cristian Monje, Cristian Segura, Matías Silva and Nicolás Pereira, WSP Golder, Red Earth Engineering, Chile, Australia

**(A68) Cyclic Response of Filtered Iron Ore Tailings Determined from Cyclic Simple Shear Tests**

Roberto Santos, João Silva, Ana Luisa Rissoli, and Michéle Casagrande, University of Brasília, Vale, Brazil

**(A71) Advances in Defining an Efficient Ground Motion Intensity Measure to Estimate Displacements of Tailings Dams**

Bastian Garrido, César Pastén and Pablo Heresi, Universidad de Chile, UTFSM, Chile

**(A72) Learnings in the Development of FMEA studies and Risk Analysis for Credible Failure Modes in Tailings Deposits**

Eloy Santos, Natalia Pizarro, Meili Carvajal and José Campaña, Arcadis, Chile

**(A73) Liquefaction Resistance Review of Integral Tailings for Filtered and Thickened Tailings Deposits Design**

Eloy Santos, José Campaña and Guillermo González, Arcadis, Chile

**(A78) Evaluation of the Susceptibility to Flow Liquefaction of a Bauxite Tailings**

André Faria, Jessé Carneiro, Lucas Costa and Mauro Santos Júnior, Pimenta de Ávila Consultoria, Brazil

**(A80) Comparison of SCPTu Tests in Three Different Velocities of Sounding (0,2 – 2,0 – 10 Cm/S) on a Tailings Beach at a Mining Facility in Brazil**

Braulio Rodrigues and Ian Paes, Vale, DF+ Engenharia, Brazil

**(A82) Comparison Between Limit Equilibrium Method and Dynamic Analysis for a Sand Dam in Chilean Seismic Conditions**

Fabián Olea, Emilio López and Jabier Ubilla, Nava Consulting, UTFSM, Chile

**(A83) Fuzzy Logic Numerical Simulation of the Analysis of the Stability of a Hydraulic Mining Tailings Dam in Face of Liquefaction**

Guilherme Freitas and Aldo Farfán, Geocontrole, Universidade Estadual do Norte Fluminense Darcy Ribeiro, Brazil

**(A84) Approaches to Assess the Physical Stability of Mining Facilities Based on Numerical Deformation Analysis**

Fabian Leal, Christian Barrueto, Eloy Santos and José Campaña, Arcadis, Chile

**(A85) José Bustos, Bastián Garrido and César Pasten**

José Bustos, Bastián Garrido and César Pasten, Universidad de Chile

**(A86) Evaluation of Sites for Tailings Facility: Saline Soils Case**

Claudia Reyes, Emilio López and Fabián Olea, Nava Consulting, Chile

**(A87) Geotechnical Characterization and Tailings Disposal Plan for the Formation of a Sealing Mat Upstream of the Dam**

Isabela Freitas, Marcos Silva, Victor Rocha, David Amaral and Alexandre Santos, Vale, Brazil

**(A90) Characterization of an Iron Ore Tailings Using SCPTu, SDMT and FVST**

Marcus Dias, Isabela Freitas, Alexandre Santos and Marília Freire, Vale, Brazil

**(A93) The Challenge in Automation and Evaluation of Tailings Dam Instrumentation**

Cristian Chacón and Vagner Lima, Inca Ingenieros Geotécnicos, Atlantic Nickel, Peru, Brazil

**(A94) A Holistic Approach to Improve Tailings Dam Monitoring**

Jainor Cabrera, Jose del Castillo and Gerald Rodriguez, Volcan Mining Company, Peru

**(A95) Dynamic Analysis of a Filtered Tailings Deposit with Simplified and Numerical Methods**

Luis Rojas, Edwin Sanchez and Denys Parra, Anddes, Peru

**(A97) Liquefaction Prediction of Sandy Tailings Subjected to Monotonic Loads Through a Variable Parameter Constitutive Model**

Jorge Cárdenas, Anibal Rios, Celso Romanel and Anderson Barreto, National University of Engineering, Pontifical Catholic University of Rio de Janeiro, Peru, Brazil

**(A99) Calibration of Advanced Constitutive Model Parameters for Nonlinear Deformability Analysis**

Alexandre Vilaça, Jackeline Huertas, Paula Martins, Maria Sanin and Henrique Alves, WSP Golder, Brazil, Canada

**(A100) Evaluation of the Seismic Coefficient for Slope Stability Analysis in Pseudo-Static Condition in a TSF Located in Peru**

Cristian Erazo, Eliu Carbajal, Victor Ramón and Rafael Luna, WSP Golder, Peru

**(A101) Evaluating Dynamic Liquefaction Triggering in Tailings: A Comparison of Simplified Methods**

Lisandro Roldan, Nicolás Rivas and Mauro Sottile, SRK Consulting, Argentina

**(A102) Application of Simplified Seismic Slope Displacement Procedure on a Tailings Dam Reinforcement Design**

Eduardo Muguet, Cleyton Stresser, Intertechne Consultores, Brazil

**(A103) Non-Linear Dynamic Analysis of Filtered Dry Stacked Tailings Using the SANISAND-Sf and PM4Sand Constitutive Models**

Brahian Roman, Martín Villanueva, Andrés Barrero and Arcesio Lizcano, SRK Consulting, USA, Peru and Canada

**(A105) The Operational Performance of a large Rockfill Tailings Dam**

Donald East, East Geotechnical; Carlos Huaman, WSP, Peru and Luis Valdez, Minera Chinalco, Peru

**(A106) Good Practices for Tailings Dams Dynamic Deformation Analysis and Monitoring**

Javier Ubilla, Universidad Técnica Federico Santa María, Chile and Gail Riddell, Nava Consulting, Chile

**(A107) Tallest Tailings Dams**

Alfredo Vásquez, Ingeniería de Valor, Chile and Sergio Barrera, Delfi Ingeniería, Chile

**(A110) Laboratory Vane Shear Testing Apparatus for Evaluating Critical State Parameters and Undrained Shear Strength of Mine Tailings**

Jason Harvey, Iván Contreras and Jedediah Greenwood, Barr Engineering, USA

**(A112) Geotechnical and Structural Assessment of Pile Stabilization for Tailings Dam on Weak Foundation: A Case Study**

Nadia Shafie Zadeh, Philip Solseng, Jed Greenwood and Roger Hart, Barr Engineering, USA

**(A113) The Selection of Pseudo Static Seismic Coefficients for Stability Analysis**

Carlos Quilodrán, José Campaña, Rodrigo Silva and Patricio Campaña, Arcadis, Cía. Minera Doña Inés de Collahuasi, Chile

**(A117) Horizontal Seismic Coefficient as a Function of The Seismic Displacement of Tailings Dams**

César Pastén, Bastián Garrido and Pablo Heresi, AMTC, Universidad de Chile

**(A120) Static Liquefaction Assessment of An Offset-Upstream Tailings Dam Using Norsand in FLAC**

Junhong Li, Nathan Toohey and Matthew Walker, Barr Engineering, USA

**(A126) Enabling Sustainability in Mining. Case Study: MBF**

Ignacio Aguilar-Sánchez, María Teresa Bellver-Baca, Wilson Barahona, Sara Arcila-Gut, Efrén Avilés, Annette Weinkauff, Martin Hansson and Rodrigo Contador, Sika Services, Switzerland, Ecuador, Chile

**(A130) The Use of L-Band SAR in the Monitoring the Safety of Tailings Storage Facilities**

Jonathan Lynch and Eddy Segal, Asterra, Israel, United Kingdom

**(A132) Application of a Stress-Based Simplified Liquefaction Procedure for a Continental Stable Region**

Celso Romanel, Jackeline Huertas, Juliana Lopez and Nilthson Valverde, Pontifícia Universidade Católica do Rio de Janeiro, WSP Golder, Vale, Brazil

**(A134) Application of Semi-Quantitative Methods for Estimating Probability of Failure by Internal Erosion in Tailing Dams**

Alix Becerra, Gabriel Cuevas, Ignacio Atucha and Claudio Román, Ausenco, Peru

**(A135) Legal Aspects of the Seismic Loading Application in TSF Projects in Brazil**

Jaime Mesquita de Souza, Rafael Dávila and Cristyane Saraiva, Hatch, Brazil, Canada

**(A137) Seismic Amplitude Control Levels for Earthen Dams: Application in Mining Operations**

Victoria Lima, Beatriz Friguetto, Luciano Assis and Matheus Cunha, Vale, Brazil

**(A138) A Comparison Between PM4SAND and HSS Constitutive Models for the Seismic Performance of Tailings Dams**

Nicolas Villanueva, Bastián Garrido and César Pastén, Universidad de Chile

**(A148) On the Influence of CSL Curvature to Characterise the State Parameter of Sand Tailings Using CPT Method**

Kimiko Rengifo, Riccardo Fanni, David Reid and Kyle Smith, WSP Golder, University of Western Australia

**(A155) Assessment of 2D and 3D Slope Stability for a Tailings Dam by Limit Equilibrium Method**

José Sierra and Italo Castillo, WSP Golder, Peru

**(A157) Probabilistic Methods Applied to Soil Slope Stability by Finite Element Limit Analysis**

Juliana Lopez, Nilthson Noreña, Jimena Meza and Celso Romanel, Vale, Pontifícia Universidade Católica do Rio de Janeiro, Brazil

**(A159) Emergency Response Plans for Tailing Transport Systems and Dams**

Albis Ferrer, Claudio Román and Luis López, Ausenco, Chile

**(A162) Performance of a Tailings Deposit Founded Upon a Clayey Soil**

Oscar Meza, Manuel Bedon, Luis Rivas Carlos Gamarra and Franklin Olaya, Anddes, University of California Berkeley, Peru, USA

**(A166) Machine Learning Applied to Control Levels and Anomaly Detection in a Tailing Dam Monitoring Data**

Gabriel Magalhães, Beatriz Friguetto, Adriana Lima, Nicholas Marino and Luciano Assis, Vale, UFMG, Brazil

**Hydraulics and Transportation**

(7 abstract)

**(A15) Tailings Dewatering: A Successful Methodology to Accelerate Drain Down in a Tailings Facility**

Claudia Hidalgo, Michel Royle and Victor Flores, SRK Consulting, Peñoles, Canada, Mexico

**(A20) Production of Sustainable Sand Generated from Iron Ore Tailings from Mineral Treatment Stages**

Tiago Pires, Maycon Alves and Bruno Batista, Vale, Brazil

**(A63) Analysis of Bingham Plastic Fluid Transport in Laminar State Inside a Rectangular Flume**

Ignacio Lorie and Alejandro Vera, Arcadis, Chile

**(A122) Tailings Distribution Box Scale Modeling**

Diego Hoebel, José Luis Flores, Gonzalo Concha and Ray Martinson, Paterson &amp; Cooke, Codelco VP, Chile

**(A127) Operational Aspects of Slurry Transport on Tailings Rehandling**

Taco de Boer, Henk van Muijen and Guido Villamil, IHC Mining, Netherlands, Colombia

**(A139) Discrete Analysis for Settling Velocity in Copper Tailings**

Alexis González, Pedro Desriviers, WSP, Chile

**(A143) Energy Cost of Implementing Spigot Discharge Lines in High Thickened Tailings Transport Systems**

Alexis González and Rodrigo Caviedes, WSP, Chile

**Seepage and Water Management**

(9 abstracts)

**(A07) Seepage and Geotechnical Monitoring of Tailing Dams Using Integrated Distributed Fibre Optic Sensing Platforms**

Zara Anderson, Jon Furlong, Saman Alkhaffaf and Fernando Reed, Silixa, Canada, UK, Chile

**(A34) Numerical Modeling of Tailings Storage Facilities: Representation and Influence on Downstream Aquifer**

Felipe Orellana, Félix Pérez and Pablo Chong, Hídrica Consultores, Chile

**(A46) Use of Geosynthetics for Moisture Reduction in Iron Ore Tailings**

Tiago Pires, Maycon Alves, Danieli Aparecida and Marcelo Lima, Vale, Allonda, Brazil

**(A59) Application of Multispectral Satellite Imagery for Water Balance Estimation in Tailings Storage Facilities (TSF)**

Gustavo Calle, María Hernández, Mauricio Abdallah, Rodrigo Gutierrez and Joaquin Martinez, WSP Golder, Minera Centinela, Chile

**(A74) Seepage Performance Through Dry Stack Filtered Tailings During Construction Process**

Bryan Sánchez, Miguel Sutta, Julio Soto and Iván Benites, Ausenco, Peru

**(A91) A Procedure to Saturated-Unsaturated Transient Seepage Analysis in Tailings Dams**

Jose Promotor, Sergio Hernández and Osvaldo Flores, Flopac Ingeniería, UNAM, Mexico

**(A160) Implementation of the HDS (Hydraulic Dewatered Stacking) Tailings Technology at El Soldado Mine - Anglo American Chile**

José Burgos, Phill Newman, Andrea López, Gonzalo Suazo and Jaime Musso, Anglo American, UTFSM, Chile

**(A161) Laboratory Scale Tests Results - Hydraulic Dewatered Stacking Technology - Anglo American Chile**

Jaime Musso, Phill Newman, José Burgos, Andrea López and Gonzalo Suazo, Anglo American, UTFSM, Chile

**(A168) Inclined Plate Clarifier Technology: A Cost-Effective Approach to Detach Thickening and Clarification**

Cristian Reyes, Cristóbal Arratia and Christian Ihle, Universidad de Chile, Nordita, KTH Royal Institute of Technology and Stockholm University, Chile, Sweden

**Rheological and Chemical Aspects**

(1 abstracts)

**(A21) The Critical Consideration of Dilute to Dry Tailings Rheologies in Practical Tailings Dam Break Modeling**

Reinaldo Garcia, Jacinto Artigas, Sergio Martinez, Pilar Garcia-Navarro, Javier Murillo, Adolfo Correa, Hydronia, LIFTEC/CSIC-Universidad Zaragoza, BrazilHydro, USA, Spain, Brazil

**Innovations in Conventional Tailings Design and Studies**

(10 abstracts)

**(A52) Use of BIM Methodology in Tailings Dam Design Projects**

Alejandra Martin and Fabian Tapia, Arcadis, Chile

**(A66) Mine Tailings as Alternative Construction Materials**

Nefeli Avgerou, Daniela Hesselbarth, Annette Weinkauff, Maria Bellver-Baca, Ignacio Aguilar-Sánchez and Emmanuel Gallucci, Sika Technology, Switzerland

**(A104) GreenConcrete®: New construction materials from tailings**

Johanna Obrequé, Andrea Contreras and Pamela Chavez, Centro de Desarrollo de Biotecnología Industrial y Bioproductos SR 245, Domolif, Chile

**(A109) Measurements Interpretation of the CPTU**

Sergio Irarrazaval, Geotechnical Consultant, Chile

**(A141) Application of Nanomaterials to Mitigate Flow Failure in Tailings Sands**

Vicente Bravo-Muñoz, Felipe Ochoa-Cornejo, Universidad de Chile

**(A146) Sensitivity Analysis of the Cyclone Input Parameters for Tailings Sand Recovery**

Alexis González and Eliezer Toledo, WSP, Chile

**(A149) An Integrative Approach to Tailings Management: Extending "Mine to Mill" to "Mine to Tailings"**

Hernan Cifuentes and David Williams, ATC Williams, The University of Queensland, Australia

**(A164) From Tailings Dams to Carbon Storage Facilities**

Javiera Soto, Mauricio Villagran and Pablo Salgado, Universidad Católica de la Santísima Concepción, Chile

## **(A165) Estimation of Moisture Values in Tailing Deposits using a Petrophysical Approach**

Aaron Moya, Diana Comte, Daniel Díaz, Leopoldo Córdova, Brian Townley and Gisella Palma, Universidad de Chile

## **(A167) Application of Machine Learning Techniques on Outlier Detection of Piezometric Data**

Hugo Brandão, Tatiana Santos and Christiane Oliveira, Pimenta de Ávila Consultoria, Brazil

### **Thickened and Paste Tailings**

(6 abstracts)

## **(A01) Drying-Wetting Cycle Effects on Geotechnical Response of Surface Paste Tailings Deposits to Cycling Loading**

Mamadou Fall and Fahad Alshawmar, University of Ottawa and College of Engineering, Qassim University, Canada, Saudi Arabia

## **(A06) Vacuum Disc Filters Go Beyond**

Jürgen Hahn, Matthias Hatzenbühler, Bokela GMBH, Germany

## **(A12) How Life Cycle Management (LCM) Evaluation Can Support Sustainable Tailings Development**

Erik Vlot, Weir Minerals, The Netherlands

## **(A33) Myths on Flocculation and Tailings Dewatering**

Phillip Fawell, Claudia Castillo and Andreas Mönch, CSIRO Mineral Resources, Fundación CSIRO Chile, Australia

## **(A36) Towards Tailings Geometallurgy: Predicting Thickener Rake Torque for Copper Tailings Dewatering**

Claudia Castillo, Phillip Fawell, David Medina, Simón Irribarra, Santiago Nuñez, Marcela Oyarzún and Héctor Carreño, Fundación CSIRO Chile, CSIRO Mineral Resources, Universidad de Magallanes, Codelco, Chile, Australia

## **(A156) Design and Construction Aspects of the In-pit Thickened Tailings Facility at the Palmarejo Mine**

Christopher Zabalaga, David Romo, Carl Burkhalter, Frank Deal and Victor Molina, Newfields, USA; Mina Palmarejo, Mexico

### **Filtered and Centrifuged Tailings Design and Studies**

(15 abstracts)

## **(A02) Evaluation of Criteria for Equipment Selection and Disposal in Large Tonnage Filtered Tailings**

Guido Huillca, Alberto Melchor and Gerardo Gonzales, WSP Golder, Peru

## **(A09) An Overview Of Tailings Filtration**

Maycon Alves, Tiago Pires and Arthur Rettore, Vale, Brazil

## **(A14) Geomechanical Behavior of an Iron Ore Tailing under High Stress Levels for Disposal by Dry Stacking**

Bruno Delgado, António Viana da Fonseca, Rafael Bittar and Daniela Coelho, Vale, University of Porto, Brazil, Portugal

## **(A16) Compressibility Analysis: Laboratory Remoulded Specimen and Other Compacted in Filtered Tailings Pile**

Matheus Muniz, Michèle Casagrande and Roberto Santos, Vale, University of Brasília, Federal University of Viçosa, Brazil



**(A37) Filter Aids to Improve Coarse and Ultrafine Gold Tailings Dewatering**

Livia Faustino, Leandro Bicalho, Pedro De Almeida and Wagner Silva, Clariant Mining Solutions, Brazil, USA

**(A43) Experimental Landfill of Filtered Iron Ore Flotation Tailings at Serra Do Sapo Mine**

Daniela Amorim, Laís Silva, Felipe Rezende, Thales Nicoli, Uilian Albino, Fernando Saliba and Paulo Franca, Anglo American, TEC3 Geotecnia e Recursos Hídricos, F&amp;Z Consultoria e Projetos, Brazil

**(A67) Operational Characterization of Filtered Tailings with Different Percentages of Ultrafine**

Ana Luisa Rissoli, Anselmo Mendes, Gécica Pereira and Alysson Pessoa, Vale, Progen, Brazil

**(A79) Characterization and Determination of Geotechnical Parameters for Technological Control of Compacted Sandy Tailings in PDER Cianita**

Matheus Muniz, Abraão Tonele, Lucio Yamamoto, Mariela Silva and Alexandre Santos, Vale, Brazil

**(A81) Change and Challenges Towards an Integrated Filtered Tailings Operation**

Arturo Gutiérrez, Einari Ojala and Rodolfo Fung, Metso-Outotec, Finland, Chile

**(A89) Technical and Financial Assessment of Dewatering and Disposal Alternatives for Bauxite Tailings**

Gustavo Correia, Bárbara Fiorito, Heloisa Ruggeri, Leonardo Sobral and João Segato, Juruti Bauxite Mine, Alcoa, Brazil, Netherlands

**(A108) Hydrocyclone Classification for Filtration of Discrete Tailings Streams from a Large Peruvian Copper Concentrator**

Cameron Stockman, CEC Mining Systems, Canada and Nino Pavlovic, Responsible Mining Solutions, Canada

**(A114) The Cost Impact of Water Recovery Requirements on Dewatering Equipment for Different Tailings Flowsheets**

Chris Braun and Kenneth Rahal, FLSmidth, USA

**(A115) Tailings Filtration with Smaller Filters but with Higher Productivities**

José Carlos Brum, Marcello Salvate and Vinícius Vilela, Matec, Italy

**(A131) Pilot Centrifuge of Fine Ni Laterite Feeds and Laboratory Centrifuge of a Low SG Phosphate Tailings**

Emmanuel Pornillos, Consultoría e Ingeniería, Tecnología de Relaves EIRL, Peru

**(A154) Improving Tailings Outcomes with Next Generation Concentrators**

Matt Pyle, Steve Meiring and Grant Ballantyne, Ausenco, Australia

**Technologies and Instrumentation for Monitoring and Surveillance**

(22 abstracts)

**(A17) Technologies and Innovations in Tailings Filtration**

Christiane Oliveira, João Chiste and Hugo Brandão, Samarco Mineração, Universidade Federal de Ouro Preto, Brazil

**(A18) Definition of Statistical Acceptance Criteria for Automated Piezometer Readings**

Christiane Oliveira, João Chiste and Hugo Brandão, Samarco Mineração, Universidade Federal de Ouro Preto, Brazil

**(A25) Digital Twin as a Mine-Tailing Deposition Support Management Tool**

Andrés Franco, Rodrigo Perez and Luís Sepúlveda, Alaya Digital Solutions, Chile

**(A27) Breakthrough 3D Subsurface Monitoring for TSFs**

Julie McLelland and Jody Polk, Auracle Geospatial, Canada, USA

**(A29) Experience on Terrestrial Radar Applied in the Identification of Subsidence Downstream of a Tailings Dam**

Filipe Costa, Elias Sousa and Karla Pimentel, Vale, Brazil

**(A31) Detection of Approaching Failure Conditions on TSFs Through Automatic Analysis of Remote Sensing Data**

Davide Colombo, Paolo Farina, Andrea Ciampalini, Giacomo Ciabatti, Minja Kukavcic and Veronica Taurino, Geoapp, Italy

**(A45) Assessment of Casagrande Piezometers Performance in Earth Dams by Conducting In Situ Permeability Tests**

Hyllttonn Bazan and Ian Paes, Vale, DF+ Engenharia, Brazil

**(A65) The Use of The INSAR Technique in Displacement Monitoring of an Upstream Tailings Dam**

Beatriz Clemente, Newton Souza and Rafael Silva, University of Brasília, Brazil

**(A76) Quality Assurance on Tailing Facilities Monitoring Systems Commissioning**

Gabriel Magalhães, Jefferson Barbosa, Hyllttonn Bazan, Luciano Assis and Frederico Juliano, Vale, Brazil

**(A77) Development of Policies, Protocols, and Strategies for a Tailing Facilities Monitoring Center**

Jefferson Barbosa, Gabriel Magalhães, Samuel Carneiro and Fabiana Cruz, Vale, Brazil

**(A92) The Use of the Denison Sampler in Stiff Foundation Soils of a Tailings Dam**

Alvaro Gutierrez, César Pasten, Rodrigo Ramírez and Julio Fernandez, División Andina, Codelco, WSP Golder, Chile

**(A98) A Framework for Geotechnical Characterization and QA/QC of Dry Stack Tailings Facilities**

Diego Cobos, Ana Ariza and Colleen Crystal, SRK Consulting, Colombia, USA

**(A119) Review of Documentation Best Practices for the Monitoring of Tailings Storage Facilities**

Vincent Le Borgne and Adam Dulmage, GKM Consultants, Canada

**(A121) Static and Dynamic Laboratory Tests of Vibrating Wire Piezometers to Propose Improvements in Their Field Applications**

Rafael Fernández, Roberto Gesche and Sebastián Fingerhuth, AMTC-Universidad de Chile, Pontificia Universidad Católica de Valparaíso, Chile

**(A125) Visualization of the Degree of Soil Saturation with a Capacitive Moisture Sensors Wireless Network**

Leopoldo Córdova, Francisco Villagrán, Diana Comte and Igor Bravo, Geosinerugia Ingeniería y Medio Ambiente, AMTC-Universidad de Chile

**(A128) Satellite Monitoring Increasing Tailings Dam Safety**

Carolina Athayde, David Albiol, Blanca Payàs and Núria Devanthery, Sixense Iberia, Brazil, Spain

**(A129) Technologies for Monitoring Surface Displacements and their Applications in Mining Dams**

Eduardo Diniz, Pamela Lisboa and Otoniel Miranda, Vale, Hexagon, Brazil

**(A140) Displacement Detection Capability by Ground Radar according to Line of Sight and Installation Distance**  
Diego Lage, Pamela Lisboa and Beatriz Mapa, Vale, Brazil

**(A147) The Use of Corner Reflectors for Monitoring Geotechnical Structures Using Ground Interferometric Radars**  
Filipe Costa and Bruno Vecchia, Vale, Ground Probe, Brazil

**(A158) Data Management to Improve the Integrity Management of Tailing Transport Systems and Dams**  
Matías Rojas, Juan Torres and Carla Serrano, Ausenco, Chile

**(A163) InSAR as the Primary Tool for Monitoring Multiple Assets. Global Tailing Dam Satellite Monitoring**  
Isora Brito, Ciscu Sánchez and Miguel Angel Verdugo, Tre Altamira, Chile and Spain

### Governance and Operational Experiences

(10 abstract)

**(A05) Adaptation of the SMED methodology in the maintenance and exchange of Press Filter plates**  
Breno Pina, André Camarão and Rodolfo Amaral, Hydro Alunorte, Brazil

**(A24) Gap Analysis in The Development of Engineer of Record Services for Tailings Deposits**  
Roberto Gesche, Alex Aburto, Valentina Rojas and Alvaro SanJuan, Stantec, Chile, United Kingdom

**(A54) Comparison Among the Principal Regulations for Mining Tailings Management in Latin America**  
Laura Moreno, Alejandro Calvo, Jaime Castro, Diego Cobos and Felipe Forero, SRK Consulting, Colombia

**(A58) Engineer of Record (EoR) as a Governance Tool**  
R. Katuscia, J. Fabre, F. Neto, M. Barra, L. Praça, M. Silva, K. Fayer and E.Menger, DF+ Engenharia, Brazil

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(10 abstract)

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(2 abstract)

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