

PRELIMINARY TECHNICAL PROGRAM

(4 plenaries + 46 presentations + 3 posters as of June 4, 2018)

Represented Countries (14): Australia, Brazil, Canada, Chile, Germany, Italy, The Netherlands, Norway, Peru, Spain, South Africa, Switzerland, UK and USA

Inauguration Ceremony

Words of Welcome

Carlos Barahona, Tailings 2018 Executive Director; General Manager, Gecamin, Chile

Dirk van Zyl, Tailings 2018 Co-organizer; Professor, Norman B. Keevil Institute, University of British Columbia, Canada

César Pasten, Tailings 2018 Co-organizer; Academic, AMTC, Universidad de Chile

Gonzalo Suazo, Tailings 2018 Co-organizer; Geotechnical Professor, Universidad Técnica Federico Santa María, Chile

Hugo Quelopana, Tailings 2018 Technical Coordinator, Specialist Engineer, Delfing, Chile

Opening Address

The Need for a Paradigm Shift in Dam Safety Management

Caius Priscu, Tailings 2018 Chair; Head of Mineral Residue Facilities, Anglo American

Plenary Presentations

(04)

Transparent Tailings Initiative: Opportunities and Challenges in Tailings Management

Angela Oblasser, Director of Sustainability, Fundación Chile

Title to be confirmed

Dirk van Zyl, Professor, Norman B. Keevil Institute, University of British Columbia, Canada

(A18) A Guide to the Management of Tailings Facilities – Mining Association of Canada's Third Edition

Michael Davies, Senior Advisor, Tailings and Mine Waste, Teck Resources, Canada; Charles Dumaresq, Mining Association of Canada

(A84) Tailings Systems at Codelco Chile: Innovation, Projects and Governance

René Orellana, Water and Tailings Corporate Manager, Codelco, Chile; Rodrigo Fernández and Carlos Vilches, Codelco, Chile

Five presentations by invited keynote speakers (TBC)

Filtration and Dry Stacking for Large Throughput

(02)

(A03) Particle Aggregation and Dewatering of Red Mud for Dry Stacking

Sílvia França and Bruna Trampus, Center for Mineral Technology, CETEM, Brazil; Afranio Gonçalves, Catholic University of Petrópolis, Brazil; Pedro Cunha, Federal University of Rio de Janeiro, Brazil

(A82) Mining Tailings Dry Stacking

Idemilson Fritzsche, Aqseptence Group Filtration, Brazil; Davide Cavalli, Aqseptence Group, Italy

Innovations in Conventional, Paste and Filtered Tailings Deposition

(18)

(A01) Developments in Tailings Pipeline Transportation

Robert Cooke and Joshua Stowe, Paterson & Cooke, USA

(A02) A Comparison between Various Pump Systems for High Flow Rate Tailing Pipelines

Hein Krimpenfort, Feluwa Pumps, Germany

(A04) Equilibria and Kinetics of Flotation Chemical Sorption Reactions in Tailings-Seawater Systems

Olga Ibragimova and Rolf Arne Kleiv, Norwegian University of Science and Technology, Norway

(A12) Rheology Applied to the Study of Flocculated and Thickened Nickel Tailings, for Waste Minimization in the Mineral Industry

Bruna Trampus and Silvia França, Center for Mineral Technology, CETEM, Brazil

(A14) Pulsation Free Hydraulic Driven Swing Tube Piston Pump

Erik Vlot and Ron Keijers, Weir Minerals, The Netherlands

(A15) Yara Pipeline Transportation of Thickened Tailings

Erik Vlot and Matti Riihimäki, Weir Minerals, The Netherlands

(A19) Gravity Tailings Distribution System: Analysis and Novel Presentation of Hydraulic Performance

Paulo Eriz, Carlos Salinas and Ray Martinson, Paterson & Cooke, Chile

(A32) XRF-CPT Probe as Real-Time High-Resolution Tool for Low-Invasive Tailing Characterization

Eugen Martac and Stefanie Cable, Fugro, Germany; Uta Alisch and Martin Wibbeling, Fugro, Netherlands

(A43) Critical Assessment of Centrifugal Pump Seal Performance and Selection

Justin Sawchuk and Pierre Mainville, Outotec, Canada

(A51) Hydraulic Scale Modelling Tests for a Tailings Transfer Box

Lars Martinson, Carlos Salinas and Ray Martinson, Paterson & Cooke, Chile

(A67) Use and Benefits of Flow Measurement in the Operation of Tailings Thickeners

Americo Zuzunaga, Ramon Urquiola and Robert Maron, CiDRA Minerals Processing, USA; Alex Van der Spek, ZDoor BV, The Netherlands

(A77) Operational Challenges of Thickened Tailings Planning at Centinela Mine

Carlos Calderón and Erwin Cortés, Minera Centinela, Chile; Joaquín Martínez and Miguel Palape, MineBridge, Chile; Carlo Cooper, MineBridge, Canada

(A83) Cut-Off Walls Applications with Plastic Concrete Walls and Jet Grouting

Juan Fernández, Pilotes Terratest, Chile

(A85) Tailings Systems at Potrerillos, Codelco: A Filtered Tailings Deposit Experience

William Castillo, El Salvador Division, Codelco, Chile; René Orellana and Carlos Vilches, Codelco, Chile

(A87) Chemical Stability: An Evaluation tool with real Application to Tailings Deposits in Chile

Verónica Gautier, Carla Calderón, Angela Oblasser, Nélida Heresi and Cristobal Girardi, Fundación Chile; Iván Honorato and Patricio Walker, Superintendencia del Medio Ambiente, Chile; Daniela Fredes, Dirección General de Aguas, Chile; René Pérez, Andina Division, Codelco, Chile

(A88) Physical Stability Index: A tool for the Preventive Operation of Tailings Deposits

César Pastén, Christian Ihle, Diana Comte, Ignacio Cartes, Felipe Campos, Meili Carvajal, Advanced Mining Technology Center, Universidad de Chile; José Campaña, Arcadis, Chile; Jorge Troncoso, BGC Ingeniería, Chile; Angela Oblasser and Sebastián Jara, Fundación Chile

(A89) The use of Waste Rock in Impoundments to Improve Geotechnical and Environmental Performance

Michael James, SNC-Lavalin, Canada

(A90) The Use of Thickened Tailings Covers for the Closure of Conventional Tailings Impoundments

Ramón Valdivia, SNC-Lavalin, Chile

Dam Safety and Social Responsibility

(10)

(A05) Independent Tailings Stewardship Reviews: A SWOT Analysis

Jorge Troncoso, BGC Ingeniería, Chile

(A34) A History of Tailings Management at El Soldado Mine

Alistair Cadden and Nathalie Astorga, Golder Associates, Chile; Timothy Gardner, Anglo American, Chile; René Lagos, José Burgos and Andrés Argomedo, Mina El Soldado, Anglo American, Chile

(A36) The Role of the Engineer of Record in Safe Tailings Management

Alistair Cadden, Golder Associates, Chile; Timothy Gardner, Anglo American, Chile

(A40) Geomembranes as Impervious Element to Prevent Accidents in Tailings Storage

Marco Bacchelli, Gabriella Vaschetti and Marco Scarella, Carpi Tech, Switzerland; Alberto Scuero, Carpi Group, Switzerland

(A41) Safe and Sustainable Tailings Management

Donald East, Wood, Peru

(A46) Geotechnical Aspects of Uranium Mining Tailings Remediation in Germany

Yves Koitzsch and Alexander Mühl, CDM Smith, Germany; Jürgen Müller and Ulf Barnekow, WISMUT, Germany

(A53) Safer Tailings Deposits: A Path of Good Practices and Recommendations

Marcelo Mussé and David Tapia, Netke, Chile; John Wates, John Wates Consulting, South Africa

(A72) The Effects of Confining Pressure, Density and Tailings Water Content on the Cone Resistance of Dynamic Lightweight Penetrometers

Gabriel Villavicencio and Samuel Rojas, Pontificia Universidad Católica de Valparaíso, Chile; Gonzalo Suazo and Ricardo Zuñiga, Universidad Técnica Federico Santa María, Chile

(A73) Drained Cyclic Behavior of Coarse Grained Tailings in the Context of the Design of Dam Crest Minimum Freeboard

Cristian Monje and Gonzalo Suazo, Universidad Técnica Federico Santa María, Chile

(A78) Analysis of Tailing Deposits Inside Basins

Juan Rayo and Ramón Fuentes, JRI, Chile

Innovative Water Recovery Technologies

(05)

(A07) Simple Steps for Improving your Thickener

Mike Cook, Paterson & Cooke Field Services, USA; Lars Martinson, Paterson & Cooke, Chile

(A21) Dewatering Tailings: Rapid Water Recovery by use of Centrifuges

Robert Klug, Flottweg SE, Germany; Adalberto Rivadeneira, Buenaventura Peru; Nils Schwarz, Schwarz Global Consulting, South Africa

(A30) Case Study: Candelaria Mine (Chile) Innovation in Cut-off and Drainage walls for Tailings Dams

Arnaud Chapuis, Soletanche Bachy, Chile; Scott Lehman, Lundin Mining, Chile

(A63) Characterization of Industrial Thickening through Pilot-Scale Testing and Numerical Simulations

Manuel Larenas and Pamela Garrido, Centro de Investigación JRI, Chile; Juan Navarrete, Sierra Gorda SCM, Chile

(A80) Effect of Salt Water on the Dynamics of Flocculation of Copper Sulphide Tailings with Kaolinite Content

Claudia Castillo, CSIRO Mineral Resources, Chile; Christian Ihle, Universidad de Chile

Satellite Technologies for Dam Safety and Construction Monitoring

(06)

(A08) Tailing Dam Monitoring with Remote Sensing Radar Satellites

Javier Duro, Johanna Granda, Rubén Iglesias, Emma Garcia, Gerard Ruiz, David Albiol, Giuseppe Centolanza, Fernando Vicente and Luis Yam, Dares Technology, Spain

(A17) Technologies Applied to Tailings Basin –TADP 2017 Project

Luis Diaz, Luciano Maluenda, Rodrigo Vega and Pedro Gálvez, Teck Carmen de Andacollo, Chile

(A24) Satellite-Based Repeat Surveying of Tailings: Cost-Effective Alternative to Aerial Surveying

Gerry Mitchell and Jim Turner, PhotoSat, Canada; Jon Engels, TailPro Consulting, Chile

(A33) Application of Differential Interferometric Radar Satellite Methodology (DInSAR) to Detect Ground Motion, with Millimetric Precision, on Codelco Chuquicamata's Talabre Tailings Dam

Ciscu Sánchez, Alberto Manso and Miguel Ángel Verdugo, Tre Altamira, Spain

(A50) InSAR Monitoring of Active, Inactive and Abandoned Tailing Facilities

Jean Pascal Iannacone and Matthew Lato, BGC Engineering, Canada; Jorge Troncoso, BGC Engineering, Chile; Daniele Peressin, Purdue University, USA

(A74) Use of UAV and Satellite Images for the Monitoring of Water Content in Tailings Storage Facilities

Victor Araya, Gonzalo Suazo, Gabriel Villavicencio and Matias Silva, Universidad Técnica Federico Santa María, Chile

Tailings Relocation and Retreatment

(02)

(A23) Use of Bauxite Residue (Red Mud) as CO₂ Absorbent

Paulo Braga, Flavio Lemos, Ronaldo dos Santos and Silvia França, Centre for Mineral Technology, CETEM, Brazil; Christine Nascimento, Federal University of Rio de Janeiro, Brazil

(A62) Influence of Grinding in Parameters Design of Tailings Management Facilities

Manuel Troncoso, Patricio Chacón and Cecilia Riveros, Arcadis Chile

Geotechnical and Geo-Environmental Instrumentation for Remote Monitoring

(01)

(A22) Instrumentation with Fiber Optic Sensors Emphasizing Groundwater Monitoring and Risk Management of Tailing Facilities

Arturo Fahrenkrog, GeoMediciones, Chile

Satellite Technologies for Environmental Monitoring and Land Surveillance

(01)

(A31) Tailings Dams Monitoring using Satellite-Enabled Technologies

Maral Bayaraa, Stephen Spittle, Chris Williams and Vladimir Stoiljković, Satellite Applications Catapult, United Kingdom

Underground Backfilling Technologies

(01)

(A42) The Benefits and Challenges of Reclaimed Tailings Use for Mine Backfill

Andrew Hall, Outotec, Canada

Poster Presentations

(03)

(A49) Lessons from Thirty Years of Operational Control and Continuous R and D in the Tailings Dam of Enami Matta Plant

Raúl Espinace and Bruno Espinace, Geotecnia Ambiental, Chile; Carlos Plaza and Miguel Ángel González, Empresa Nacional de Minería, Chile

(A56) Technical and Economic Analysis for Different Tailings Disposal Technologies in the Andes Area

Omar Malaver, Franco Sánchez and Javier Mendoza, Anddes, Peru

(A76) Interactive Visualization of Tailings Deposits in Virtual Reality

Eduardo Yáñez, Idex, Chile

PRESENTATIONS DISTRIBUTION

Mining companies

(13)

Buenaventura, Peru (1)
 Codelco, Chile (1)
 Codelco, Andina Division, Chile (1)
 Codelco, El Salvador Division, Chile (1)
 Empresa Nacional de Minería, Chile (1)
 Lundin Mining, Chile (1)
 Anglo American, Mina El Soldado, Chile (1)
 Anglo American, Chile (1)
 Minera Centinela, Chile (1)
 Minera Sierra Gorda, Chile (1)
 Teck Carmen de Andacollo, Chile (1)
 Teck Resources, Canada (1)
 Wismut, Germany (1)

Engineering and consulting companies

(14)

Arcadis, Chile (1)
 Anddes, Peru (1)
 BGC Ingeniería, Chile/Canada (2)
 CDM Smith, Germany
 Centro de Investigación JRI, Chile
 Fugro, Germany/Netherlands (1)
 Fundación Chile (2)
 Golder Associates, Chile
 John Wates Consulting, South Africa
 JRI, Chile (1)
 Netke, Chile (1)
 Paterson & Cooke, USA/Chile (4)
 Schwarz Global Consulting, South Africa
 Tailpro Consulting, Chile
 Wood, Peru (1)
 ZDoor BV, The Netherlands

Supplier companies

(17)

Aqseptence, Brazil/Italy (1)
 Carpi Tech/Group, Switzerland (1)

CiDRA Minerals Processing, USA (1)
Dares Technology, Spain (1)
Feluwa Pumps, Germany (1)
Flottweg, Germany
GeoMediciones, Chile (1)
Geotecnia Ambiental, Chile
IDEX SpA, Chile (1)
MineBridge, Canada/Chile
Outotec, Australia/Canada (2)
PhotoSat, Canada (1)
Pilotes Terratest, Chile (1)
Satellite Applications Catapult, United Kingdom (1)
SNC-Lavalin, Canada (2)
Soletanche Bachy, Chile
Tre Altamira, Spain (1)
Weir Minerals, The Netherlands (2)

Universities and research centres	(09)
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Catholic University of Petrópolis, Brazil
Center for Mineral Technology, CETEM, Brazil (3)
CSIRO Mineral Resources, Chile (1)
Federal University of Rio de Janeiro, Brazil
Norman B. Keevil Institute, University of British Columbia, Canada (1)
Norwegian University of Science and Technology, Norway (1)
Pontificia Universidad Católica de Valparaíso, Chile (1)
Purdue University, USA
Universidad de Chile, AMTC
Universidad Técnica Federico Santa María, Chile (2)

Fiscal institutions; private, professional or business organizations

Dirección General de Aguas, Chile
Mining Association of Canada
Superintendencia del Medio Ambiente, Chile