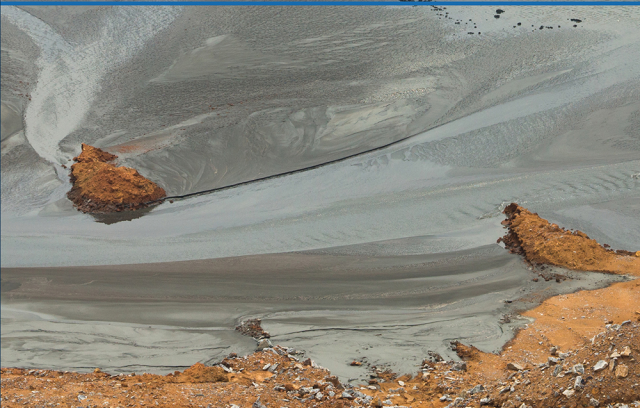


Paste 2018

Proceedings of the 21st International Seminar on
Paste and Thickened Tailings

11–13 April 2018 | Perth, Australia



EDITORS Richard Jewell and Andy Fourie

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Editors

Richard Jewell

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Andy Fourie

The University of Western Australia, Australia



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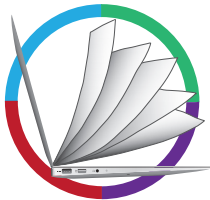
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The dedicated efforts of the peer reviewers have resulted in the high quality of the technical programme and the papers compiled for this publication. The editors thank the following people who contributed their time and expertise as reviewers of manuscripts for the proceedings of the 21st International Seminar on Paste and Thickened Tailings held in Perth, Australia. A technical and critical review of each paper was undertaken by a minimum of two reviewers for the production of this volume.

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Preface

Current indications point to an upturn in mining activity in most parts of the world, although it is probably premature for too much optimism. As conditions improve, new projects are initiated and existing, mothballed operations start up again, and production of mine tailings will inevitably follow. As prices improve and lower grades become more viable, the rate of tailings production is likely to rise inexorably. Designers, owners and operators of tailings storage facilities will thus face ongoing challenges in meeting the needs to safely store large volumes of tailings into the future.

The unfortunate failures of tailings storage facilities that continue to occur have sharpened criticism of the industry, and in some cases, the social licence to operate has been compromised due to concerns relating to mine waste management. There is, therefore, a clear need to continue to pursue techniques that provide improved security of management of these facilities, at the lowest cost practical.

This is the 21st seminar in the series of International Seminars on Paste and Thickened Tailings, with the first having been held in 1999. The seminar itself, and the technology related to thickening and filtration of tailings, have matured over these years and implementation of thickened tailings projects are now seen around the world – some in extremely harsh climates. This seminar sees a number of papers related to projects in northern Europe, where particularly harsh winters prevail. There are also papers on projects with very high production rates, something that a decade ago was considered unachievable.

As the technology of thickening to a high-density evolved and designers and operators gained expertise in the area, new developments have emerged. Although filtration is certainly not a new technology, the ability to filter the volumes of material that are now being contemplated is certainly new. Unique drivers, such as lack of land availability and extremely high water costs in some countries, have resulted in the option of tailings filtration becoming viable, and some experiences of such operations were discussed at this seminar.

Since the inception of the seminar series, considerations of the rheological characteristics of thickened tailings have been paramount. Aside from a number of papers on rheological topics, a short course was held on the topic of rheology fundamentals for slurries and pastes prior to the seminar. A second workshop, on the rapidly developing topic of filtration, was also held immediately prior to the seminar.

On behalf of my co-editor, Richard Jewell, I express our thanks to everyone who contributed to our technical and editorial committees and to all those who assisted with the technical review of papers submitted to the seminar. The seminar was planned and organised by the team at the Australian Centre for Geomechanics, Perth, and special thanks and acknowledgement are due to Garth Doig, Candice McLennan, Christine Neskudla and Josephine Ruddle. I would also like to thank the student volunteers who provided valuable assistance throughout the seminar.

Finally, an event such as this could not have taken place without the continued support of our industry sponsors. Thank you to all the sponsors. We trust you have found your involvement with this seminar rewarding and that the continuing contribution of new and improving technologies to the safe and sustainable management of mine tailings will benefit from this involvement.

The seminar proceedings are available online, free-of-charge. The papers can be accessed by scanning the QR code or from papers.acg.uwa.edu.au/c/paste2018

Andy Fourie
Professor of Civil, Environmental & Mining Engineering
The University of Western Australia



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