

PATERSON & COOKE PRESENTS:

Paste and Thickened Tailings

JANUARY 31 - FEBRUARY 03, 2012

HELD AT: THE COLORADO SCHOOL OF MINES, GOLDEN, COLORADO, USA



Course Introduction

Paste and Thickened Tailings (P&TT) has developed into a mature technology with wide application in mine tailings management. We are witnessing the large scale adoption of P&TT technology with the commissioning of systems operating at 100,000 tpd.

The successful implementation of P&TT technology is dependant on a sound understanding of slurry colloidal behavior, thickening and thickener operation, rheology, pump and pipeline transport systems, and disposal methodologies.



Objectives

The course objectives are:

- An introduction to the fundamental concepts related to dewatering, transportation and deposition of paste and thickened tailings.
- To demonstrate the application of these concepts to the design and implementation of appropriate cost effective P&TT systems.

Content & Program

The intensive four-day course consists of 14 lecture and laboratory demonstration sessions. Each participant is issued with a comprehensive set of notes and reference materials. Calculators are required for example calculations performed during the lecture sessions.

Presenters

The course is presented by Prof. Andy Fourie of the University of Western Australia, and Dr. Robert Cooke, Fredre Dunn and Christian Kujawa of Paterson & Cooke.

Andy Fourie has more than 25 years industry and research experience in the management, transportation and disposal of mining waste. Andy's areas of expertise include management and disposal of mining waste, minefill, soil mechanics, tailings behavior, paste technology and environmental geomechanics.

Robert Cooke has over 20 years experience in the design of slurry pipeline systems. He has been directly involved in the implementation of a large number of paste tailings and underground backfill systems.

Fredré Dunn has more than 10 years of metallurgical experience and has been involved in the development of paste and thickened tailings disposal systems within the De Beers Group. She has worked on paste thickening projects across various mineral industries in Africa and North America.

Christian Kujawa has over 20 years metallurgical experience of which roughly half have been working in operations, the other half has been, with short stints into sales, as a technical consultant. His expertise covers metallurgical test work, process development, plant design, process control and optimization, both technically and quantitatively.



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Who Should Attend

The course is designed for all professionals involved in paste and thickened tailings applications, including:

- Geotechnical engineers
- Chemical and mineral processing engineers
- Mechanical engineers
- Operations engineers
- Consulting and design engineers
- Equipment and reagent vendors.

Continuing Education Dates & Venue Fees & Registration

The Colorado School of Mines will award 2.3 Continuing Education Units (CEU's) upon successful completion of this course.

The course will be held from Tuesday, January 31, through Friday, February 3, 2012 in the Petroleum Hall of the Green Center on the campus of the Colorado School of Mines in Golden, Colorado.

The registration fee for this course is \$2,195 (US) if received by December 2, 2011. The fee is \$2,395 (US) after that date. Payment must accompany the application form. Enrollment applications will be accepted in the order received. To register on-line, use the following web address:

<http://www.csmospace.com/register.php?c=187>

The sponsor reserves the right to cancel the course and return registration fees if enrollment is insufficient. Personnel substitutions may be made at any time without penalty. Cancellations will be charged a \$250 service fee. No refunds will be made to participants who fail to substitute or cancel at least 5 working days prior to the start of the course.

Contact

Registration Enquiries: Office of Special Programs and Continuing Education (SPACE) Colorado School of Mines, 1600 Jackson St., Suite 160A, Golden, CO 80401. Tel: 303-279-5563; Fax: 303-277-8683; space@mines.edu. Technical Enquiries: Robert Cooke, Robert.Cooke@PatersonCooke.com

Course Program

Session	Tuesday January 31	Wednesday February 1	Thursday February 2	Friday February 3
07:45–08:00	Tea/Coffee	Tea/Coffee	Tea/Coffee	Tea/Coffee
08:00–10:00	Registration (until 8:10) Course Introduction P&TT Introduction Solid-Liquid Separation	Transport Systems Water Pipeline Systems Slurry Introduction	Geotechnical Properties of Tailings	Laboratory Demonstrations
10:00–10:30	Coffee break	Coffee break	Coffee break	Coffee break
10:30–12:00	Slurry Behavior Coagulation and Flocculation Thickening Fundamentals	Settling Slurries Non and Slow Settling Slurries Mixed Regime Slurries	Fundamentals of Tailings Geotechnics	Project Discussions Course Review
12:00–13:00	Lunch	Lunch	Lunch	Course close
13:00–14:30	Thickener Technology Thickener Operation and Water Recovery	P&TT Pipeline System Design Slurry Pipeline Hydraulics	Methods of Disposal	
14:30–15:00	Coffee break	Coffee break	Coffee break	
15:00–16:30	Filtration Technology Case Study	Transport System Components Case Studies	Stability Issues Case Studies	