

6-9
JUNE
2017

PATERSON & COOKE Presents:

Filtered, Paste and Thickened Tailings Course

THE COLORADO SCHOOL OF MINES, GOLDEN, COLORADO, USA



Course Introduction

Filtered, paste and thickened tailings is developing into a mature technology with wide application in mine tailings management. Several large tonnage operations are being developed based on paste and filtered tailings systems.

The successful implementation of filtered, paste and thickened tailings technology is dependent on a sound understanding of slurry colloidal behavior, thickening and thickener operation, filtration, rheology, pump and pipeline transport systems, conveyor transport and disposal methodologies.



Objectives

The course objectives are:

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

Continuing Education

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

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 and Christian Kujawa of Paterson & Cooke.

Andy Fourie has more than 30 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 25 years experience in the design of slurry pipeline systems. He has been directly involved in the implementation of a large number of tailings and underground backfill systems.

Christian Kujawa has over 25 years metallurgical experience. His expertise covers metallurgical test work, process development, plant design, process control and optimization.



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Who Should Attend

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

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

Dates & Venue

The course will be held from Tuesday, June 6, through Friday, June 9, 2017 in the Petroleum Hall of the Green Center on the campus of the Colorado School of Mines in Golden, Colorado.

Fees & Registration

The course registration fee is **\$2,395** (US) if received by April 8, 2017. The fee is **\$2,595** (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://csmSPACE.com/register.php?c=449>

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 \$275 service fee. No refunds will be made to participants who fail to substitute or cancel at least five 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 Agenda

Session	Tuesday June 06	Wednesday June 07	Thursday June 08	Friday June 09
07:45-08:00	Tea/Coffee	Tea/Coffee	Tea/Coffee	Tea/Coffee
08:00-10:00	Registration (until 8:10)	Filtration Fundamentals, Technology and Testing Considerations	Geotechnical Properties of Tailings	Methods of Disposal Stability Issues
	Course Introduction Tailings Introduction			
10:00-10:30	Coffee break	Coffee break	Coffee break	Coffee break
10:30-12:00	Mineralogy and Water Chemistry Coagulation and Flocculation Thickening Fundamentals	Transport Systems	Fundamentals of Tailings Geotechnics	Mine Backfill Case Study
		Pump and Pipeline Systems Truck Transport		
12:00-13:00	Lunch	Lunch	Lunch	Course close
13:00-14:30	Thickener Technology	Conveyor Transport and Stacking Laboratory Visit Overview	Tailings De-sulfurization Circuits Cycloned Tailings Tailings Beach Slopes	
	Thickener Operation and Control			
14:30-15:00	Coffee break	Coffee break	Coffee break	
15:00-17:00	Rheology Improving Thickener Installations	Laboratory Demonstrations	Free Afternoon	
Evening	Social Function	Free evening	Case Studies (17:00 to 20:30); including dinner	



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