

SRK Consulting presents

## Extreme flow management in the mining industry

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Introduction to international best practices in cold climate environments

### **Virtaamahuippujen hallinta kaivosteollisuudessa, johdanto parhaisiin kansainvälisiin käytäntöihin kylmässä ilmastossa**

#### **Workshop**

**Date:** 22nd January, 2015, 08:00-17:00

**Venue & Location:** Arktikum (Auditorio), Rovaniemi, FINLAND

SRK welcomes you to a workshop about extreme flow management in mining industry. The workshop will have a Nordic approach and include recent SRK experiences from other cold climates globally.

#### **Objectives of the course**

“Extreme flow management in mining industry” gives participants an overview of best international cold climate practices in estimating flows and planning and dimensioning water treatment measures. The course also demonstrates importance of an integrated approach between disciplines. Understanding the role of extreme flow in management of project risks is also one of the objectives.

The course will cover the following topics:

- Extreme flow from a project risk perspective
- Total and object specific water balances
- Importance of ground water regime characterisation
- Maximum precipitation, floods and snowmelt
- Hydraulic dimensioning
- Tailings management and dam safety
- Planning for high inflow impacts to producing mining operations
- Performance of water treatment systems in extreme flow situations
- Life of mine considerations
- Extreme flow and mine closure strategies
- Global warming perspective

#### **Who should attend the workshop?**

- Feasibility study managers
- Those who work with mine site planning, development or production
- Environmental coordinators, environmental engineers, environmental managers, mine managers
- Other interested professionals

**Lecturers:**

- Michel Noël, Principal Consultant (Tailings Engineering)
- Matt Dey, Principal Consultant (Geochemical Engineering), PhD
- Päivi Picken, Senior Consultant (Geochemistry), PhD
- Michael Di Giovinazzo, Senior Consultant (Geotechnical Engineering)
- Christofer Olofsson, Consultant (Hydrogeology)

**Course fee: 250 EUR**

*Course fees are inclusive of lunch, coffee and course material. Exclusive VAT.*

**Registration:** *Indicate the number of attendees. Send registration form attached to this flyer to Päivi Picken ([ppicken@srknordic.com](mailto:ppicken@srknordic.com)). Or post form to SRK Consulting (Sweden) AB, Trädgårdsgatan 13-15, 931, Skellefteå. Please, also inform us about your possible special diet.*

*Queries concerning the course can be addressed to Päivi Picken ([ppicken@srknordic.com](mailto:ppicken@srknordic.com); mobile: +46 70 3518182).*

You are **also** welcome to our

## **Open House and Presentation Event**

21<sup>st</sup> January 2015, the evening before the workshop.

We will discuss past and future development  
of extreme flow management.

Open presentation does not require the participants to have  
any major background in the subject.

This event is free of charge and part of launching SRK's new  
Finnish office in Rovaniemi.

SRK Consulting Finland Office

Maakuntakatu 29-31 B in Rovaniemi

16:00 – 20:00 (presentation approximately 17:00-18:00)

It is appreciated if you email to [ppicken@srknordic.com](mailto:ppicken@srknordic.com)  
if you will attend

- in order to help us to prepare for the event!

### **Course includes presentations by following experts:**

**Michel Noël** is a principal consultant with SRK (UK) with 28 years of experience in consulting and research, primarily on mine related projects. His experience includes mine closure, tailings and waste rock management, acid mine drainage, cold climate engineering, hydrogeology, water management, numerical modelling, instrumentation and monitoring, geotechnical laboratory testing, data processing, programming and construction supervision. Mr Noël has been involved in a wide range of international closure projects that ranged from tropical to arctic climates, from design to implementation, and from research to engineering. His previous experience includes being responsible for cover design and numerical modelling within the ANSTO research group on Acid Rock Drainage. His skills also include the development of computational tools for cover design, gas transport and the oxidation rate of sulphidic rock.

**Matt Dey**, Principal Consultant at SRK (UK) in geochemical engineering with PhD and over 17 years' experience. He is a chartered engineer and specialises in the application of geochemistry and process engineering to a wide range of mining and engineering problems related the stabilisation of mine wastes and the treatment of discharge waters (including waste cyanide solutions, acid rock drainage and saline water). Matt has advised on and provided designs for projects in Europe, Russia, the Middle East, Africa and the Americas.

**Päivi Picken**, Senior Consultant at SRK Consulting (Finland/Sweden) holds a PhD and 18 years' work experience in environmental geology, with a focus on environmental geochemistry. Päivi has been involved with both opening and closing industrial operations in European context. Päivi's experience includes mine waste characterisation and mine closure. She has also worked with after-use of peat extraction areas and remediation of industrial and metal contaminated sites. She has also experience in management of acid sulphate soils. Päivi's other experience includes geochemistry of peatlands and wetland applications in waste water treatment. She has also worked with a range of other water treatment technologies.

**Christofer Olofsson**, Consultant at SRK Consulting (Sweden) hydrogeology has an MSc in Water and Environmental Engineering and a Bachelor in Business Studies from Uppsala University, Sweden. He is particularly skilled in hydrogeological test methods and has designed and executed numerous packer and spinner tests for industries such as mining, nuclear waste management and infrastructure. The majority of Christofer's work has involved comprehensive fracture network characterization, setting up groundwater monitoring systems and constructing numerical groundwater models to assess potential risk scenarios.

**Michael Di Giovinazzo** is a Geotechnical Engineer at SRK Consulting (Finland/Sweden) with over 14 years' experience in hard rock underground and open cut mining, project management,. He is a Member of the AusIMM and holds a GCertEng in Mining Geomechanics and BSc in Applied Geology. Rock mechanics engineering experience over 11 years' has been across underground and surface mining operations, operational geotechnical team leading, and feasibility studies. He has made the transition to the Nordic region from Australia where he was most recently Principal Geotechnical Engineer for a large operation located in cyclonic rain event area. The mining area including deep SLC, two open cuts, cave-pit interaction and subsidence, and open stoping.

### **About SRK Consulting:**

SRK Consulting is part of the international SRK Group, which employs more than 1500 professional engineers and scientists based at over 50 offices on 6 continents. In the Nordic Region SRK is located in Skellefteå (since 2009) and in Rovaniemi (starting from 2015). SRK's presence in the Nordic Region brings the services of a global mining consultancy to the region, offering local knowledge and local project support.

SRK provides services such as geological modeling, resource estimation, mine design and scheduling, mining and civil geotechnics, water management, tailings disposal, metallurgy, environmental management, geochemistry and technical-economic modeling. SRK provides support to clients on a range of projects from exploration management, feasibility studies, mine operation and mine closure. SRK are often requested to review work done by others as part of, for example, due diligence exercises and audits.

SRK's independence is ensured by holding no equity in any project. This enables us to provide multi-disciplinary conflict-free and objective recommendations on crucial judgement issues.

## Extreme flow management in mining industry

### REGISTRATION FORM

We,  (Name of the Organisation)  
 would like to attend the workshop,  
 'Extreme flow management in mining industry'

	Full Name	Email
1.	<input style="width: 95%;" type="text"/>	<input style="width: 95%;" type="text"/>
2.	<input style="width: 95%;" type="text"/>	<input style="width: 95%;" type="text"/>
3.	<input style="width: 95%;" type="text"/>	<input style="width: 95%;" type="text"/>
4.	<input style="width: 95%;" type="text"/>	<input style="width: 95%;" type="text"/>
5.	<input style="width: 95%;" type="text"/>	<input style="width: 95%;" type="text"/>

#### Course Fees per Delegate

Date	Course	Price EUR (excl. VAT)	Number of Participants	Total Price SEK (excl. VAT)
22 <sup>nd</sup> January 2015	Extreme flow management in mining industry	250 EUR	<input style="width: 50px; height: 30px;" type="text"/>	<input style="width: 50px; height: 30px;" type="text"/>

Our invoicing details are as follows:

Address:

  


VAT number:

The invoice can be e-mailed to:

Registration closes on 7th January 2015. Please note that your registration is binding. Full payment is expected in case of withdrawal after 7th January 2015.