



## **The International Network for Acid Prevention**

**An organization of international mining companies that seeks the prevention of acid rock drainage (ARD) and metal leaching in support of responsible mineral development.**

### **1. SUMMARY**

Welcome to the latest issue of the INAP Newsletter. It has been a busy Q2 and start of Q3 in 2017 as INAP continues to evaluate and select the first winner of the Best Management Practice Award. The winner will be announced in early November.

The review of GARD Guide chapters is continuing and I would like to take this opportunity to thank those who have volunteered their time to review and identify gaps and needs. The identified priority chapters will be updated in 2018. The Global Cover Design Guidance Document is completed and will be released shortly. The document will be featured in a Short Course at AMD 2017 in Burnie, Tasmania in November. INAP is also working in collaboration with SMI at the University of Queensland on developing a platform for INAP Webinars. Trials are underway.

INAP continues to generate interest in the mining industry and two companies have indicated their interest in joining INAP in the near future.

In this issue, you will find an innovative technique for sampling pits using drones, information on the successful annual BC/MEND Workshop, and several excellent reference websites that currently exist and should be bookmarked.

I also would like to thank those who have commented positively on the new format used for the newsletter. Suggestions are most welcomed. Happy reading!

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## 2. 11th ICARD / IMWA 2018 / MWD - Pretoria, South Africa



The planning for the Eleventh International Conference on Acid Rock Drainage (11th ICARD) and the 2018 International Mine Water Association (IMWA) Conference to be held September 10-14, 2018 at the CSIR International Convention Centre is well underway. Please visit [www.ICARD2018.org](http://www.ICARD2018.org) and [www.IMWA2018.info](http://www.IMWA2018.info) for additional information.

Close to 300 abstracts from 30 different countries are being reviewed for inclusion in the technical program. Sponsorship opportunities are now available and the brochure is available at [www.IMWA2018.info/download-sponsorship-brochure](http://www.IMWA2018.info/download-sponsorship-brochure)

On behalf of INAP, IMWA and the WISA Mine Water Division, and the Organizing Committee for the 11th ICARD and 2018 IMWA, we would like to invite you to attend and participate in the 11th ICARD | IMWA | MWD 2018.

## 3. 9th AMD Workshop - Burnie, Tasmania



The 9th Australian Workshop on Acid and Metalliferous Drainage “Leading edge practice across resource cycles” will be held November 19-23, 2017. The workshop will be hosted by the Sustainable Mineral Institute (SMI) at the University of Queensland. SMI is the Australian partner in INAP’s Global Alliance.

The workshop and site visit will provide excellent opportunities to share with speakers and delegates, unbiased expertise and advocacy with respect to the causes, management and amelioration of the impacts of AMD and Acid Sulfate Soils.

Prior to the workshop, on Sunday November 19, 2017, two short courses will be offered. The first is on the Fundamentals of Acid and Metalliferous Drainage (AMD) and the second, An Introduction to INAP’s Global Cover System Design Technical Guidance Document.

More information is available from the website at <http://amdworkshop.com.au>

#### **4. Aerial Drones used to Sample Pit Lake Water**

At the SME conference in Denver, Devin Castendyk of Hatch presented an interesting paper on the use of unmanned aerial vehicles, or drones, that are capable of collecting and retrieving water samples from depth in pit lakes, tailings ponds and other mine water basins. This approach will lower sampling costs by an estimated 50%, but even more important is the reduction in safety-related risks associated with sampling events. A novel device for aerial drones that currently enables the collection of water samples from depths up to 100 m (320 ft) was developed (patent pending), and has been demonstrated successfully at 5 pit lakes and 1 reservoir in the US, and 2 pit lakes in Canada. A copy of the paper which highlights the potential of this emerging technology appeared in the July issue of Mining Engineering and is available from Devin at [devin.castendyk@hatch.com](mailto:devin.castendyk@hatch.com). The drone is currently on standby to assist with hazardous water sampling as part of hurricane disaster relief efforts in the southern United States.

And congratulations are in order for Devin as the paper on the Drone Water Sampling Program received the “2017 Outstanding Paper Award” from the SME Environment Division.

#### **5. About the British Columbia MEND ARD/ML Workshop**

The British Columbia (BC) MEND ML/ARD Workshop was created to address the limited long-term operating experience for most ML/ARD prediction and mitigation measures and the need for a cost-effective technical forum where operational challenges and field-scale results can be presented and discussed. Each year the workshop invites leading practitioners and researchers from BC, Canada and abroad, to share their results and knowledge and provide fresh insight into how the tool box of technologies and practices to address ML/ARD issues can be improved and expanded upon. Strengths of the workshop include constructive dialogue between people from differing communities of interest and the open sharing of information. The workshop is recognized as one of the best, value-for-money events today.

The BC MEND Workshop is organized by Natural Resources Canada, the BC Ministry of Energy and Mines and MEND, with support from the British Columbia Technical and Research Committee on Reclamation (TRCR) and the International Network for Acid Prevention (INAP).

The 24th Annual BC MEND ML/ARD Workshop will be held November 29th and 30th, 2017 at the Simon Fraser University Harbour Centre in Vancouver. The focus of the conference is on case studies and field results. To register or obtain further information on the event, visit the MEND website: <http://mend-nedem.org/mend-event/24th-annual-bc-mend-mlard-workshop/>

#### **6. Proceedings of the Annual BC MEND ML/ARD Workshops are now electronically available!**

BC MEND is pleased to announce the launch of a new website where presentations from past ML/ARD Workshops are electronically available and searchable by key words and year. We invite you to visit the extensive library of workshop presentations at <http://bc-mlard.ca/>

The collection of BC MEND presentations represents a key resource of case studies and technical guidance on ML/ARD aspects. Prior to 2011, each conference addressed a specific topic (e.g., prediction 1996, 2000, 2003), risk assessment (1998), underwater disposal (1999);

2001), dry covers (2000, 2004, 2009), treatment (2002, 2007, 2010), tailings (2008) and mine workings (2006). More recently, multiple topics have been presented at workshops, including perspectives of First Nations and local community groups.

## **7. New ADTI-MMS Website Launched**

The Acid Drainage Technology Initiative - Metal Mining Sector (ADTI-MMS) has recently launched their new website and it can be found at <http://community.smenet.org/adi-mms/home?ssopc=1>. David Williams, ADTI periodically updates the website with current events, ongoing and completed projects and resources such as the ADTI Workbooks. ADTI-MMS is one of the Global Alliance partners of INAP for the USA along with its sister organization ADTI-CMS for the coal sector.

## **8. South African Mine Water Atlas Launched**

South Africa has launched a national mine water atlas that can be found at <http://www.wrc.org.za/Pages/MineWaterAtlas.aspx>. The work was a collaboration between the Water Research Commission, Council for Geoscience (an agency of the Department of Mineral Resources), and the Department of Water & Sanitation and is a comprehensive reference on the vulnerability of water resources to mining activity in South Africa. It shows the critical interplay between mining and water resources and is the most extensive set of documents of its kind.

## **9. Database of Mine Remediation Papers Available for Free!**

Jim Gusek of Sovereign Consulting Inc. has compiled a database (in Excel format) of technical papers from conferences that focus on mine reclamation, treatment of mining influenced water, mine closure, and related topics. The database contains just the authors, paper titles, keywords (if any), conference session, and volume/page number of the proceedings. In general, it does not contain links to the papers themselves, which are constantly changing.

Many conferences and symposia are included in the database. Among those you will find:

- International Conference on Acid Rock Drainage (ICARD)
- International Mine Water Association (Papers from 2013 only)
- Mine Closure Conference (Papers from 2011 only)
- The Tailings and Mine Waste Conference
- Annual West Virginia Acid Mine Drainage Task Force Symposium

One can download the database (periodically updated) for free from the Sovereign Consulting website: <http://www.sovcon.com/index.php/resources> - a link to the database is found towards the bottom of the page. Although a brief registration effort is required to gain access, Sovereign has never used the information for SPAMMING. Over 5,000 paper entries have been compiled.

## 10. Successful IMWA 2017 Congress held in Finland

The 13th International Mine Water Association (IMWA) Congress was held in Rauha – Lappeenranta, Finland in June. A total of 159 oral and 49 poster presentations were given, covering 9 key topics relevant to mine water, including physical water management, modelling, geochemistry and treatment. IMWA 2017 was the largest conference in the 38 years of IMWA's history, attracting 368 delegates from 35 countries, including 30 international students. The Congress, chaired by Dr. Christian Wolkersdorfer, featured keynote presentations by Kimmo Tiilikainen, Finnish Minister of Agriculture and the Environment, Hannele Pokka, Permanent Secretary of the Finnish Ministry for Environment and Dr. Kirk Nordstrom from the US Geological Survey. The proceedings, for all IMWA congresses, are available from the IMWA web site at [www.IMWA.info/proceedings](http://www.IMWA.info/proceedings).

## 11. Up-Coming Events

Don't miss the following upcoming events:

- **Tailings and Mine Waste '17**  
November 5-8, 2017, Banff, Alberta, Canada
- **Enviromine-Srmining 2017**  
November 8-10, 2017, Santiago, Chile
- **A Framework to Holistically Manage the Environmental Reality of Orphaned and Abandoned Mine Lands**  
November 14, 2017, Colorado School of Mines, Golden, CO. USA
- **Australian AMD Workshop 2017**  
November 19-23, 2017. Burnie, Tasmania
- **24<sup>th</sup> Annual BC/MEND Workshop**  
November 29-30, 2017. Vancouver, BC, Canada
- **11<sup>th</sup> ICARD/IMWA 2018/MWD**  
September 10-14, 2018. Pretoria, South Africa

Please let us know of other events not listed that INAP and GA members would be interested in participating.

## INAP MEMBERS

		
		
		



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