



The International Network for Acid Prevention

*An organization of international mining companies dedicated to a reduction
in the liability associated with sulphide mine materials*

April 2005

NEWSLETTER

www.inap.com.au

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*If you no longer wish to receive this newsletter please contact
Amber.Turner@riotinto.com.*

INAP Members



[Russell Dix](#) (Elko)



[Evelyn Bingham](#) (Phoenix)
[Jos Schaekers](#) (South Africa)
[Peter Waters](#) (Perth)



[Les Hulett](#) (Toronto)



[Denis Kemp](#) (Toronto)
[Robert Prairie](#) (Montréal)



[Dan Ramey](#) (Phoenix)
[Larry Todd](#) (Phoenix)



[Mike Aziz](#) (British Columbia)
[Walter Benko](#) (Perth)
[Ross Gallinger](#) (Toronto)



[Bruce Kelley](#) (Melbourne)
[Rich Borden](#) (Melbourne)
[Steve Slater](#) (Melbourne)

CONTACT INAP at:

Technical Manager - Anne-Marie Fleury Anne-Marie-Fleury@inap.com.au +44 20 7503 2529, London, UK
Administrator- Amber Turner Amber.Turner@riotinto.com +1 661 822 1473, California, USA

1. 2005 Work Plan

This year's INAP work plan is based on a continuation of successful outreach activities pursued in 2004 (see below) as well as a focus on establishing high profile research projects and supporting important acid drainage technical sessions. A summary of planned sessions includes:

- A technical workshop is planned in Elko, Nevada in June in cooperation with the University of Nevada in Reno;
- A short course, similar to the Sudbury workshop planned in Perth, Western Australia for late August; and
- INAP also plans to support the annual BC MEND workshop in Vancouver.

Also in 2005, INAP will be committing to developing high profile research projects:

- A scoping effort with regional partners will be pursued to establish a global guide on acid drainage. More information is provided below;
- A field testing project to validate prediction testing at the Diavik site will also be supported; and
- Resources have been allocated to support planning for the 7th International Conference on Acid Rock Drainage (ICARD), which will be taking place in 2006 in St Louis, USA.

2. Summary of 2004 activities

In 2004, networking and information sharing activities were an effective means for conveying INAP's accumulated research, experience, and network to both members and the wider mining community. This was pursued throughout the year by providing support for and actively participating in a series of acid drainage and other relevant technical sessions around the world including:

- The MEND workshop on sludge and neutral drainage in Sudbury;
- The Mine Water 2004 meeting in Newcastle, UK;
- The Minerals Council of Australia Sustainable Development Conference in Melbourne; and
- The annual British Columbia MEND Acid Rock Drainage/Metal Leaching workshop in Vancouver.

INAP also hosted a technical workshop on dry covers in Sudbury designed as a short interactive course which was specifically aimed at operators. The workshop was based on experiences at Inco's Whistle mine, and included a site visit. A number of expert technical talks were followed by a roundtable

scenario building exercise and examination of different possible approaches to closure. The workshop was considered highly successful as a vehicle to share industry experiences and INAP plans to repeat the workshop format.

Other outreach activities in 2004 included significant website improvements, as well as continued interaction with the global alliance. Communications with other groups was also a priority, with several presentations to the International Council on Mining and Metals (ICMM), as well as submissions to the International Finance Corporation (IFC) regarding the newly released precious minerals mining guidelines as well as their review of existing guidelines relevant to mining and acid drainage.

3. Scoping for an Acid Drainage Guide

In 2005, INAP will be leading an effort to scope a collaborative project with the Global Alliance to establish a global guide on acid drainage (the Global Alliance is a partnership of organizations with acid drainage activities; see the relevant item below for more information on the Global Alliance).

The need for guidance on good practice relating to acid drainage (AD) has become increasingly apparent. Although much substantive material exists which is regional and issue-specific, the gap with respect to internationally recognized guidance was recently highlighted through the pending review of the International Finance Corporation's (IFC) guidelines.

The scoping exercise is meant to gain a better understanding of the specific requirements for such a guide and establish the initial steering group. INAP is working with its global alliance partners (ACMER, ADTI, MEND, and PADRE) to carry-out this work.

4. ICARD support

Planning for the next International Conference on Acid Rock Drainage (ICARD) is actively underway. ICARDs are held every 3 years and are the premiere venue for sharing information on acid drainage.

The 7th ICARD will take place in 2006 in St Louis, USA and is being held in conjunction with the annual meeting of the Society of Mining , Metallurgy and Exploration (SME). A number of groups are participating in the planning of the conference including the Acid Drainage Technology Initiative (ADTI), the American Society for Mining and Reclamation (ASMR), the International Mine Water Association (IMWA), INAP, the Mine Environment Neutral Drainage programme (MEND), and the Rocky Mountain Hazardous Substance Research Center (RHSRC).

INAP will be hosting the plenary session as well as the closing session when a call for bids to host the next ICARD is made. The conference will include some 15 technical sessions including characterization, pit lakes and prediction, social concerns, closure and land use issues, etc..

The call for papers for the ICARD closed on February 22nd, 2005. Further papers can be accepted at the discretion of the specific session organizers. Contact Charles Bucknam (Charles.Bucknam@Newmont.com) for more information.

5. INAP Research Projects

INAP is pleased to support a significant project on scale-up work at the Diavik mine, owned by Rio Tinto in northern Canada. The **Diavik Test Pile Research** will aim to determine if the cover design for the waste rock is appropriate by investigating the potential benefits of a low permeability till layer within the cover in 'scaled-up' test piles. The test piles will provide valuable information on thermal, hydrological, geochemical, and oxygen transport properties of the rock, before the actual construction of the waste rock pile.

This project is intimately linked with the Scale-up project developed for INAP by a number of researcher groups in 2002. Test Pile research at the Diavik mine began in 2004 and the research team includes ANSTO, the University of Alberta, the University of British Columbia, Carleton University and the University of Waterloo.

In 2004 INAP supported an **ACMER study on the role of vegetation in the long term containment of mine waste**. Phase 1 of the study consisted of a literature review and gap analysis, and was recently completed. The report is available from the INAP and ACMER websites.

INAP continues to work with researchers on other projects. These include:

- A workbook on **Predicting Acid Rock Drainage Using Geochemical Mathematical Models**; in collaboration with ADTI;
- A workbook on **Pit Lake Characterization, Modeling, and Remediation Approaches**, in collaboration with ADTI;
- A report on South African experiences on **Sulphate Reduction Technology**, led by Pulles, Howard & deLange;

6. Global Alliance with Regional Organizations

Some news from our global acid drainage alliance partners is summarized below.

ACMER NEWS

Designing Effective Store-Release Covers - the Role of Vegetation

ACMER is currently developing Stage 2 of a research proposal designed to improve the effectiveness of store-release covers which will (1) determine which models are most suitable for modelling water balance of vegetation and soils of store-release covers, (2) define the minimum data set required for these models, (3) evaluate them using actual field data, and (4) determine what influence cover parameters and perturbations such as fire have on cover performance. Companies interested in details of Stage 2 are encouraged to contact Dr Owen Nichols (o.nichols@acmer.com.au).

Other current new ACMER projects include:

- Robust Guidelines and Assessment Procedures for Metal-Contaminated Sediments;
- Standard Protocols for the Long-Term Prediction and Monitoring of Mine Lake Water Quality; and
- Tools for Biological Water Quality Assessment of Temporary Streams.

ACMER has also recently made available a toolkit report on Technologies for the Environmental Advancement of Mining in the Northern Territory available at: <http://www.acmer.com.au/publications/attachments/TEAMNTToolkit.pdf>.

ACMER will be hosting the Fifth Australian Workshop on Acid Drainage Aug 29 - Sept 2 in Perth, Western Australia. Abstracts should be sent to m.whitta@acmer.com.au by May 2nd.

MEND News

A MEND publication on Water Quality Issues in Neutral pH Drainage is now available. It includes examples of emerging priorities for the mining industry in Canada. Hard copies are available for \$35CAD by contacting MEND (mend_nedem@nrcan.gc.ca).

Other recently released reports include:

- Covers for Reactive Tailings Located in Permafrost Regions Review (\$35Cdn hard copy); and
- Design, Construction and Performance Monitoring of Cover Systems for Waste Rock and Tailings (\$75Cdn CD; \$125Cdn hard copy).

MEND is helping to organize a workshop in Québec. The “Symposium 2005 - Mines and the Environment” will take place May 15 to 18, 2005 in Rouyn-Noranda, Québec. For more information see www.cim.org.

Please note that the annual BC/MEND ML/ARD Workshop, the 12th, will take place in Vancouver on November 30 and December 1. More information will be sent out by the Secretariat as it becomes available.

Should you wish to be added to MEND's e-mailing list for periodic updates, please send a note to mend_nedem@nrcan.gc.ca.

ADTI News

ADTI continue to be active in organizing the 7th ICARD. The call for papers has been received and progress on the technical sessions has been made.

PADRE News

Abstracts are invited for the International Mine Water Symposium 2006: St Louis USA. IMWA has a special session for Mine Water related issues for the 2006 St Louis Symposium on the afternoon of Wednesday, March 29th 2006. Contact asmr2@insightbb.com or <mailto:asmr2@insightbb.com> for further information.

PADRE will also contribute to the International Mine Water Association Symposium in Oviedo Spain. Information about the meeting can be found at IMWA's homepage www.IMWA.info

7. Other news

Passive Treatment

A special issue of the Science of the Total Environment is being published on the pilot-scale passive treatment systems that were set-up at Wheal Jane in the UK. Results from a 3 year, multidisciplinary study are presented. For more information, contact Dr. Paul Whitehead (P.G.Whitehead@Reading.ac.uk) to order copies (GBP £17 each).

MCA Call for papers

The Minerals Council of Australia (MCA) is calling for papers for the 2005 Sustainable Development Conference. This Conference is a leading minerals industry forum for progressing the business case for sustainable development and its practical execution through cooperative partnerships with industry, government and community.

8. Upcoming Meetings

Don't miss the following meetings related to acid drainage.

* Potential INAP and Regional Organization meetings are indicated with an asterisk.

- [ARCSACC - Assessment and Remediation of Contaminated Sites in Arctic and Cold Climates](#)
May 8-10 2005, in Edmonton, Canada
- [2nd Symposium on Mines and the Environment](#)
May 15-18 2005, in Rouyn-Noranda, Quebec, Canada
- * [INAP 2005 Annual General Meeting](#)
May 26 2005, in London, UK
- [Practical Monitoring for Improved Environmental Management in Mining \(Short Course\)](#)
June 6-9 2005, Adelaide, South Australia
- [Processing and Disposal of Mineral Industry Wastes '05](#)
June 13-15 2005, Falmouth Beach Resort Hotel, Falmouth, UK
- [Processing of Industrial Minerals '05](#)
June 16-17 2005, Falmouth Beach Resort Hotel, Falmouth, UK
- [International Conference on Mining and the Environment and Metals and Energy Recovery "Securing the Future"](#)
June 27-July 1 2005, Skelleftea, Sweden
- [Challenges to Establishment of Sustainable Ecosystems on Mined Lands Across Diverse Biogeographic Zones \(Workshop\)](#)
June 29-July 1 2005, Townsville, Queensland, Australia
- [Planning and Provisioning for Mine Closure \(Workshop\)](#)
July 28-29 2005, Melbourne, Australia
- * [5th Australian Workshop on Acid Drainage](#)
Aug 29-Sept 2 2005, Perth, Western Australia
This workshop, sponsored by INAP, will include major themes such as planning, prediction, regulatory requirements, management and treatment.
- [Environmental Management for the Minerals and Quarrying Industries \(Short Course\)](#)
Sept 28-30 2005, Melbourne, Australia
- [Operational Mine Water Management \(Workshop\)](#)
Nov 28-30 2005, Adelaide, South Australia

- * [12th Annual BC/MEND Workshop](#)
December 2005, Vancouver, Canada
Contact Mr. [Gilles Tremblay](#) (+1 613 992 0968) or Dr. [Bill Price](#) (+1 250 847 9335) for more information.
- [7th International Conference on Acid Rock Drainage \(ICARD\)](#)
March 26-30 2006, St. Louis, Missouri, USA
- [SWEMP 2006 - 9th International Symposium on Environmental Issues and Waste Management in Energy and Mineral Production](#)
May 2006, Athens, Greece
- [5th International Congress on Environmental Geotechnics](#)
June 26-30 2006, Cardiff, Wales, UK