



The International Network for Acid Prevention

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

Feb 2004

NEWSLETTER

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To no longer receive this newsletter please contact [Amber Young](#).

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1. INAP Work Plan for 2004

The INAP Operating Committee (OpCom) has had a series of meetings to formulate a work plan for 2004. An analysis of progress and difficulties in the last 2 years was used as a basis.

Looking back, INAP is particularly pleased with the progress that has been made engaging with other acid drainage groups. The Global Alliance with key organizations has benefited INAP with a wealth of regional experience and stakeholder perspectives. In 2004, the OpCom will continue to actively support this initiative.

The Call for Proposals was another new initiative in 2003. Over 50 proposals were received and assessed based on pre-determined criteria, with 5 different projects being selected for funding. INAP was happy at the interest generated by the Call for Proposals, and also noted several lessons from the process:

future Calls for Proposals will be more focused with respect to research areas, criteria, and funding scope.

Research projects selected in 2003 will be developed in 2004, and any unsolicited research proposals will continue to be considered. However, **INAP will not be issuing a new call for proposals in 2004**. The OpCom agreed that the timing is appropriate to focus this year's activities on networking and information sharing.

This strategy will specifically be aimed at better integrating and involving member company operations. This will help to disseminate existing research and get a better understanding of industry research needs.

The OpCom will be organizing several small working sessions to discuss key acid drainage issues with mine site personnel from member companies. Whenever possible, conclusions from the discussions will be compiled and circulated. The sessions will also be timed to occur in parallel with INAP and Regional Organization meetings, in order to allow for discussing findings within the wider Global Alliance group.

Another area of focus will be the INAP web site. Much work has been done making more information available on the web site in the past year. In 2004, further improvements will be undertaken with respect to making the site more user-friendly and seeking to facilitate accessibility to existing acid drainage work.

2. New Reports on the INAP Web site

Several exciting new reports have been made available on the web site. The OpCom invites you to visit the www.inap.com.au to download the following documents:

- [Evaluation of the Long-Term Performance of Dry Cover Systems](#)
- [Treatment of Sulphate in Mine Effluents – Lorax Report](#)
- [Rum Jungle Final Report – July 2003](#)
- [Papers on the Waste Rock Dump Characterization Project](#)

New links also on the web site:

- Guidelines from the recently completed [Passive In-Situ Remediation of Acidic Mine Drainage - PIRAMID](#) project of the European Commission's 5th Framework have recently been published. The new PIRAMID Guidelines differ from other documents by covering:
 - Both passive treatment and prevention, such as the use of dry covers;

- A wider repertoire of contaminants, including remediation methods for Zn, As, U and cyanide;
 - Practical information on the civil engineering aspects of passive remediation.
- The **Industrial Chair on Environment and Mine Wastes Management** hosted by NSERC, Polytechnique, and Université du Québec en Abitibi-Témiscamingue (UQAT). The Chair was established in 2001 to develop geo-environmental tools aimed at improving the integrated management of solid and liquid mine wastes. Research projects fall into two key project areas: the integrated management of wastes during mining operation, and the reclamation of potentially acid-generating sites upon closure. The Chair is supported by the federal agency NSERC, six mining companies, three consulting firms, and four Quebec provincial agencies.

3. Diavik Test Pile Research and Other INAP Research Projects

INAP is happy to announce its support for a significant project on scale-up work at the Diavik mine, owned by Rio Tinto in northern Canada. The 'Diavik Country Rock 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 the Australian Nuclear Science and Technology Agency (ANSTO) in 2002. Test Pile research at the Diavik mine will begin in early 2004 and the research team will include ANSTO, the University of Alberta, the University of British Columbia, and the University of Waterloo.

INAP continues to work with researchers to develop other projects for 2004. These include:

- **Designing Effective Store-release Covers** for the Long-term Containment of Mine Waste, led by ACMER;
- Workbook on Predicting Acid Rock Drainage **Using Geochemical Mathematical Models**; led by Ed Trujillo from the University of Utah in collaboration with ADTI;
- Workbook on **Pit Lake Characterization**, Modeling, and Remediation Approaches, led by Jim Jonas from CDM in collaboration with ADTI;
- **Sulphate Reduction** Report – Addition of South African Experience, led by Pulles, Howard & deLange;

4. Global Alliance with Regional Organizations

The Global Alliance on acid drainage held a meeting in December 2003. Partner organizations include INAP, the US based Acid Drainage Technology Initiative (ADTI), the Australian Centre for Mining Environmental Research (ACMER), and the Canadian Mining Environment Neutral Drainage (MEND) programme.

Approximately 20 people participated in this meeting, including invited guests from the International Mine Water Association (IMWA). In parallel to consolidating the current relationship between the Global Alliance members, it was agreed that the group would look to include groups from other regions. It was also agreed that 3 meetings/teleconferences would be held a year.

Each group shared information on its current acid drainage activities and projects (see the next section for details). Discussions with IMWA focussed on the formation of a commission for the Partnership for Acid Drainage Remedial Technologies in Europe (PADRE) constituted of European IMWA members. PADRE have confirmed their interest in engaging formally with the Global Alliance, and discussions are underway.

INAP has also communicated with the Water Institute of Southern Africa (WISA) about the Global Alliance. Ross Gallinger and Jos Schaekers from the OpCom will be meeting with William Pulles - Chairman of WISA - this month to exchange information. Clive Bell from ACMER will meet again with WISA representatives in March 2004.

5. Regional Organization News

ACMER NEWS

- The Minerals Council of Australia (MCA) has approved a plan to work with ACMER to develop an extension strategy focusing on the delivery of courses and workshops. These will target the practical application of the industry's Sustainable Development Operational Framework, which is based upon the International Council for Mining and Metals (ICMM) Sustainable Development principles.
- ACMER is part of an international consortium, which recently completed a project to review 'good practice in post-mining regeneration' around the world. This review was undertaken as part of a business case being developed by Rio Tinto Ltd, the Eden Project (Cornwall, UK), and English Nature (the UK Government agency for conservation in England) for a 'global centre for post-mining regeneration'.

- In December 2003, ACMER commenced the 'Risk Assessment of the Effects of Cyanide-Bearing Tailings Solutions on Wildlife' project.
- A review on the role of vegetation on store and release covers has set in motion Stage 1 of the 'Designing Effective Store-Release Covers for the Long-Term Containment of Mine Waste' ACMER project (partially funded by INAP). This review is expected to be completed in May 2004 when a workshop will be held to identify future research needs.
- The ACMER publication entitled 'A Guide to the Application of the ANZECC/ARMCANZ Water Quality Guidelines in the Minerals Industry' is now available in hard copy and CD-ROM from ACMER.
- The Critical Review of Environmental Issues on Deep Sea Tailings Placement has been completed and is about to go to peer reviewers.
- ACMER jointly conducted a workshop with the MCA on Management and Remediation of Abandoned Mines in Australia on 14 November 2003 in Brisbane. The principal workshop issues that were addressed included: (1) progress towards development of a national inventory; (2) stakeholder perspectives and expectations; (3) risk identification and management; and (4) innovative approaches for remediation and funding. A report on the Canadian National Orphaned/Abandoned Mines Initiative (NAOMI), supplied by MEND, was presented by Clive Bell, Executive Director of ACMER. This workshop has acted as a catalyst for a national approach on this issue. Workshop proceedings are currently being edited and are expected to be available in April 2004.
- ACMER, together with the Universities of Cape Town and Witwatersrand, will be involved in a short course on 'Sustainable Development Practices on Mine Sites – Tools and Techniques' in Johannesburg from 8-10 March 2004.

For more information, see the February 2004 edition of '[ACMER News](#)'.

ADTI news

The American Society of Mining and Reclamation (ASMR) will hold its 21st Annual Meeting, and the West Virginia Surface Mine Drainage Task Force will convene its 25th Annual Symposium in Morgantown, West Virginia from April 18-22, 2004.

This joint conference will be held at the Radisson Conference Center in Morgantown, West Virginia and provides an opportunity for scientists, regulators, and mining and reclamation personnel to exchange information, share ideas, and meet together. The preliminary program provides descriptions of workshops, field trips, and technical sessions and

presentations. It also gives information about accommodations, registration materials, and exhibits.

For more information Contact **Jeff Skousen**, Conference Chairman at 304-293-6256 or consult the **ASMR Conference web site** for the programme information and Registration Form.

An organizational meeting for the **7th International Conference on Acid Rock Drainage (ICARD 7)** will be held at the SME Annual Meeting in Denver on Monday, February 23, 2004. Representatives from ADTI, ASMR, the IMWA, INAP, Rocky Mountain Regional Hazardous Substances Research Center (RMRHSRC), and the SME Environmental Division will make presentations to discuss ideas for the ICARD.

MEND News

MEND is happy to announce a workshop on Sludge Management and Treatment of Weak Acid or Neutral pH Drainage to be held in Sudbury. The workshop is planned for May 26-27, 2004. The presentations on Sludge Management will focus on the characterization of the sludge, material handling, final disposal plans and operating costs. Presentations on the Treatment of Weak Acid or Neutral pH Drainage will focus on field-scale work, practical constraints and operating costs. Challenges and information gaps for both topics will be discussed. For more information contact **Gilles Tremblay**.

PADRE news

- **IMWA** will be hosting a symposium on mine water, Sept 20 – 24 2004, in Newcastle, UK. This meeting will provide the venue for the formal public launch of PADRE, and will also be the first conference with INAP. The deadline for abstracts has now passed, however papers will still be received provided they are completed by the end of March - contact **Paul Younger**. The meeting will span a variety of topics from geochemistry, hydrogeology, biology, and remediation to policy issues. Site visits will include:

State-of-the art mine water treatment systems in NE England, including some from the EU-sponsored international infrastructure for mine water remediation research - **CoSTaR**.

The Nicholas Wood Library, the world's finest historic mining library.

Optional post-congress tour in Scotland, including visits to Europe's largest acidic pit lake, underground visits in the Cruachan power station, mine water treatment system visits, plus a chance to decide for yourself whether the Pb-Zn mining remains or the malt whisky distilleries are the finest visitor attractions on the Isle of Islay!

- The **ERMITE** project (Environmental Regulation of Mine Waters in the EU) has just finished its three-year deliberations, and its final outputs will soon be publicly available. These include:

A series of 'Policy Briefs' to be available on the **web site**, or by **email** request.

A supplementary issue of the IMWA journal on 'Mining Impacts on the Fresh Water Environment: Technical and Managerial Guidelines for Catchment-Scale Management'. These guidelines are believed to be the first to address mine water management at the scale of entire impacted catchments, rather than individual discharges. The document includes a comprehensive review of the ecological impacts of mine waters, technical guidance on prevention and remediation, appropriate monitoring strategies, an economic assessment methodology for formal prioritization of remedial activities, and a proposal for a multi-stakeholder engagement process for catchment management planning. This issue is available by contacting **Christian Wolkersdorfer** before Feb 27, and will eventually be available from the ERMITE web site.

6. ICMM

The International Council for Mining and Metals (ICMM) was approached by INAP in order to explore potential collaboration between the two groups. INAP's area of activity is clearly consistent with ICMM's objectives and sustainable development principles. Discussions on improving links between INAP and ICMM are underway.

7. Upcoming Meetings

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

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

- **SME Annual Meeting – Symposium on Sustainable Development from the Ground Up**
February 2004, Denver, Colorado, USA
ADTI-MMS members to co-chair several sessions.
- **Joint Conference: 21st Annual Meeting of the American Society of Mining and Reclamation (ASMR) and 25th West Virginia Surface Mine Drainage Task Force Symposium**
April 18 - 22, 2004, Morgantown, West Virginia, U.S.A.
Contact **Jeff Skousen** for more information.

- **Minin 2004 - Innovación en Minería**
April 18 - 21, 2004, Santiago, Chile
- **8th International Symposium on Environmental Issues and Waste Management in Energy and Mineral Production (SWEMP)**
May 17-20, 2004, Antalya, Turkey
- ***MEND Sludge Management and Treatment of Weak Acid or Neutral pH Drainage**
May 26-27, 2004, Sudbury, Canada
- ***Workshop Tailings Closure – Mining Life Cycle Center, Mackay School of Mines**
June 7-9, 2004, Elko, Nevada, USA
- **International Instrumented Watershed Symposium,**
June 22 - 25, 2004, University of Alberta, Edmonton, Canada
A symposium focusing on the challenges of instrumenting a watershed, the integration of different disciplines in watershed research, and specifics on instrumentation and climate issues. Contact **Crystal Chaikowsky** for more information. The Symposium will also include a tour of the Oil Sands in Fort McMurray hosted by Syncrude Canada.
- **ACMER Workshop on Tailings Risk Management for Operation and Closure**
July 14-16, 2004, Perth, Australia.
- **Treatment Technologies for Mining Impacted Water**
June 18th 2004, Freiberg/Saxony, Germany
- **ACMER Workshop on Operational Mine Water Management**
Aug 16-18, 2004, Kalgoorlie, Australia.
- **M-WINE Workshop** following the **32nd International Geological Congress (IGC)**
Sessions focussing on 'Biogeochemical studies of the environmental impacts of mining on ground Surface waters' and 'Water - Rock Interaction: Acid Mine Drainage'
Aug 20, 2004, Florence, Italy
- ***Mine Water 2004 – IMWA Symposium**
Sept 20 – 24 2004, Newcastle, UK
- ***Minerals Council of Australia (MCA) Inaugural Global Sustainable Development Conference**
Oct 25-29, 2004, Melbourne, Australia