The International Network for Acid Prevention (INAP) – Progress on a Global Issue

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Abstract

Acid drainage is arguably the mining industry's most significant environmental legacy issue. The high liability costs carried by many mining companies are a clear indication of the gravity of the problem.

The International Network for Acid Prevention (INAP) is an industry group created to reduce acid drainage liabilities. INAP operates on the premise that this challenge can best be met through a cooperative effort. By pooling resources and sharing information, INAP has played a proactive role in this field. One of the key initiatives INAP facilitates is the partnership with regional organizations. Through the *Global Alliance*, INAP links with the Australian Centre for Mining Environmental Research (ACMER), the Acid Drainage Technology Initiative (ADTI) in the United States, and the Mine Environment Neutral Drainage (MEND) program in Canada. The Global Alliance is happy to welcome the Partnership for Acid Drainage Remediation in Europe (PADRE) as the newest partner. Through this expanded network, INAP will continue to pursue efforts to achieve significant improvements in the way acid drainage issues are understood and managed.

1. Acid Drainage – The Industry Perspective

Societies' demand for responsible mining as well as the observance of catastrophic incidents and the legacy of abandoned mines are all factors that have placed greater pressure on the mining industry. One of the central issues surrounding increasing public scrutiny of mining operations is the potential environmental impacts associated with acid drainage (also known

as acid rock drainage (ARD) or acid mine drainage (AMD)). While we have learned how to move mountains, our tools to control the acid drainage that flows from these man-made structures are limited. A solution to this problem will not rise from the ashes like the phoenix – it requires that those close to the problem take an active role. The International Network for Acid Drainage (INAP) has been the industry vehicle to address this serious issue – the network has been working towards reducing the liabilities associated with acid drainage since its' inception in 1998.

Historical regional programs, like the Mine Environment Neutral Drainage program (MEND) in Canada, have been excellent in advancing our core knowledge. It is through these programs that pioneering work on wet covers, soil covers, and advances in wetland treatment have been made, which have provided controls and mitigation to acid drainage. However, these tools cannot be universally applied, and are of limited value when we encounter mature acid drainage conditions. To strive for the next level of 'solutions', greater global cooperation is required and industry participation and mobilization are key factors.

2. The INAP Network

INAP is an industry group with members currently including many of the industry's leaders: Barrick Gold, BHP Billiton, Inco, Falconbridge Noranda, Phelps Dodge, Placer Dome, Rio Tinto.

INAP also engages with key regional organizations through a *Global Alliance*. This group shares information and collaborates on projects in a process formalized via a statement of mutual intent to protect and improve water quality that may be adversely impacted by acid drainage. Partners include the Australian Centre for Mining Environmental Research (ACMER), the Acid Drainage Technology Initiative (ADTI) in the United States, and the Mine Environment Neutral Drainage (MEND) program in Canada. The Global Alliance is happy to welcome the Partnership for Acid Drainage Remediation in Europe (PADRE) as the newest partner of this extended network. INAP continues to be committed to supporting the Global Alliance as a means of facilitating international cooperation on an inherently difficult issue.

3. The Benefits of Networking

INAP's objective to reduce the liability associated with sulphide mine materials is pursued in three ways: networking and information-sharing; technology transfer; and gap-driven research.

Through the INAP network access to the most recent acid drainage experience and knowledge helps to:

- Build on existing acid drainage research and avoid duplication;
- Learn from the achievements and challenges of others; and
- Benefit from expert peer review on key acid drainage issues.

INAP supports and organizes technical transfer activities at different levels. Member workshops bring together management and operations-level people from different companies around the world and are instrumental in promoting the implementation of good practice. Capacity building activities for governments and regulatory bodies are also supported by the network. In addition, INAP plays a key role at international events that involve various stakeholder groups, such as the International Conference on Acid Rock Drainage (ICARD).

The ICARD is arguably the premier venue for industry, researchers, consultants, government and others to display and discuss advancements in dealing with acid drainage issues. INAP has taken on the responsibility for ensuring the continued success of this important conference. INAP supported the 2003 conference in Cairns, Australia, and is assisting in the planning and organization of the 2006 ICARD in St. Louis, USA. The timing is currently appropriate to think about the next ICARD in 2009 in a location that provides the world with a new and fresh perspective on dealing with acid drainage.

INAP is increasingly being acknowledged as the leading international acid drainage research group. Research projects address the most significant information gaps in the prediction, prevention, management, measurement and treatment of acid drainage. Several INAP research projects are undertaken in collaboration with partner regional organizations. Examples include:

- A study with ACMER on the role of vegetation on store and release covers in Australia and how this is incorporated in modeling;

- An updated review of a prediction manual for acid drainage in cooperation with MEND;
- A workbook on pit lakes designed to be a part of a series of workbooks on acid drainage for governments and the general public being undertaken by ADTI.

As a network involving a number of companies, INAP also facilitates cooperative projects. For example, INAP is currently supporting a project to validate and improve acid drainage prediction techniques by undertaking full-scale instrumented monitoring of waste rock dumps. Due to the significant associated costs, this kind of project is much more easily feasible through INAP than individual mine sites – and the knowledge gained clearly has important implications for improving industry performance.

4. Conclusion – going forward

INAP has been successful in developing a global organization pursing an agenda to minimize the liability associated with acid drainage. In order to build on this success, the group seeks to continue to expand its network. INAP invites all companies concerned with acid drainage to join and take an active role, and also seeks the participation of regional organizations through the Global Alliance.