


E.5 International Network for Acid Prevention

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International Network for Acid Prevention



Update - Nov 2000

What is the Concept behind INAP?

- Success of MEND in Canadian Context
- Opportunity to address a global problem in a global fashion
- Leverage other industry and government ARD research \$\$
- Share information better within the industry
- More effective use of global research & technology in a cost constrained environment - long term ARD issues

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INAP Vision Statements

- Achieve a significant reduction in the liability associated with mine materials through the complete mining business cycle
- Build credibility with key stakeholders through their engagement in the affairs of INAP and the collaborative development of a worldwide guide
- Establish an organisation with demonstrated structure and abilities to make long-term improvements in acid prevention and other environmental issues on the basis of global cooperation and action

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Who is INAP? ... A group of mining companies with a common approach

• Barrick Gold	• Normandy
• BHP	• Pasminco Century
• Billiton/Rio Algom	• Penoles
• Falconbridge	• Placer Dome
• Freeport	• Noranda
• Homestake	• Rio Tinto
• Inco Ltd	• Teck Corp

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Operating Committee

Mr Keith Ferguson	Operating Committee Chair Placer Dome
Mr Luc St Arnaud	Noranda
Dr Bruce Kelley	Rio Tinto
Dr Mandy Agnew	Rio Tinto
Mr Bill Napier	INCO
Mr Johan du Preez	Billiton / Rio Algom
Mr Ross Gallinger	Billiton / Rio Algom
Mr Glenn Eurick	Barrick Gold
Mr Henry Brehaut	

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So what is INAP actually doing ?

- INAP web site
 - Communications and information sharing
 - AD Programs
 - Project Briefs
 - Networks/Nodes
 - Techwatch
- Tech Transfer
- Collaborative research / projects
- International and Regional Links
- Advocacy / Guideline development



www.inap.com.au

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Technology Transfer

- Co-Disposal Workshop (INCO & PDI)
 - Vancouver, Canada : Nov 27th-28th 2000
 - Industry expectations/need for co-disposal
 - Co-disposal concepts
 - Literature review results (waste dumps / covers)
 - Case Studies (Porgera, Australian Coal mines, Cadia etc)
 - Co-disposal research opportunities
- Treatment Workshop (Noranda & Inmet)
 - Fort Collins, Colorado, USA, Jan 15-16th 2001
 - Review current (proven) water treatment technologies
 - Sludge handling and disposal, Thiosalt removal, Toxicity, Oxyanion treatment, TDS removal
 - Identification of knowledge gaps that can be addressed going forward with targeted projects

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INAP Links

- INAP is establishing formal linkages to major international and regional groups
 - US Acid Drainage Technology Initiative - Metals Mining Sector (ADTI)
 - Canadian Network for Acid Prevention (CNAP)
 - GMI / MMSD
- INAP Links to major R&D Centres
 - Centre for Environmental Research in Mineral, Metals and Materials (CERM3) at UBC
 - Australian Nuclear Science and Technology Organisation (ANSTO)

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ARD Guideline / World Wide Guide

- ARD Guidelines
 - Developing industry guidelines
 - looking to get sign off from all member companies
 - initial stages of developing the WW Guide for ARD prediction, prevention and mitigation

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INAP Networks and Nodes

- Networks that have been developed

Dry Covers: Semi-Arid & Arid	
Dry Covers: Temperate	
Wet Covers	Breakthru
Risk Assessment	Waste Dumps
Heap closure	Pit Lakes
Treatment Technologies	Prediction
Submarine Tailings Disposal	

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Project: Scale-up Review Phase

- Project Scope
 - To determine and define factors that control the scale-up of laboratory static and kinetic test rates of acid production, consumption and metal release to field scale
 - The Review Phase has been recommended to
 - identify companies which have already carried out predictive lab and field work
 - and to identify gaps in the data
 - recommend sites for inclusion in main project
 - develop database of existing physical and geochemical data
- Progress
 - Developing spreadsheet / questionnaire
 - Preparing database for data collection

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Project: Co-Disposal of Tailings & Waste Rock

- Project Scope
 - develop state of the art review of co-disposal
 - prepare scoping document on possible applications
 - hold workshop to develop applications, costs and research needs - prefeasibility (Nov. 2000, Vancouver)
 - conduct laboratory trials and pilot tests
- Progress
 - review under way
 - Workshop held
 - Porgera field tests of methods, ideal mixtures, geotechnical stability : complete
 - Phase 2 - Porgera large scale field trial

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Project: Evaluation of Gel Samplers

Project Scope

- To build on the work by Lorax and other researchers around the world, to assess the application of the Diffusive Gradient in Thin-films (DGT) technology to the mining industry.
- literature review
- Phase 1 - validate results utilising other speciation techniques
- Phase 2 - Lab studies and toxicity studies
- Optimisation
- Report / guidelines

Progress

- literature review underway

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Project: Hydrological & Geochemical Characterisation of Waste Rock Dumps

Project Scope

- Dumps (10-12 year old) are currently being dismantled at 2 INAP member company sites (Rio Tinto / INCO).
- Hydrological Data and Geochemical data collected to assist in understanding of ARD generation within dumps.
- Rio Tinto mine dump, previously treated with both lime solids and phosphate solution. Reviewing this dump would allow investigation into the success of these treatments.
- Placer Dome's Golden Sunlight Mine dump dismantling results are available for comparison.

Progress

- all sampling complete at Rio Tinto mine dump
- Initial sampling at INCO mine
- NAPP/NAG analysis under way atPDI
- mineralogical analysis under way atEGi

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Project: DuPont Passivation

Scope

- Pilot field test of pitwalls and waste rock rubble piles
- Laboratory column/humidity cell tests of passivated and un-passivated materials
- Evaluation of fundamental processes/mechanisms
- Long-term performance of passivated materials
- Application of technology to range of mine wastes, mineralogy and climates

Progress

- column tests of passivated and un-passivated samples
- field test of pit wall flushing atPDI Golden Sunlight
- now monitoring site
- waste rock dump trial/comparison with KEECO Si treatment and RM phosphate treatment (Gov funded work)

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