
Our Services

Ventilation Design

- Estimating of air quantities during mine life
- Ventilation Network analysis, including pressures, volumes, temperatures and humidity
- Economic shaft and development sizes
- Fan and Refrigeration solutions
- Selection of appropriate ventilation standards to meet your sub-surface conditions
- Evaluation of working conditions (temperatures, gas concentrations, productivity, illumination, noise, ergonomics)
- Feasibility and Due Diligence studies; preparing capital and operating cost estimates
- Cost optimisation of technical solutions based on your financial criteria
- Cost reduction opportunities

Ventilation Audits, Statutory Compliance, Other Submissions

- Statutory audits, Duty of Care audits, Due diligence studies
- Cost audits
- Risk Assessments and Engineering/Human factors design
- Approvals, Exemptions, Submissions to Regulators or others

Working In Heat Protocols

- Developing Safe, Healthy and Productive working conditions

Occupational Health and Hygiene, Ergonomics

- Health standards, selection criteria and medical assessments
- Ergonomics (human factors) design
- Illumination, Noise, Vibration
- Mine Rescue medicals and advice
- Medico-legal advice and expert witness services

Emergency Escape (Egress) Planning and Systems

- Risk Assessments: fire, power failures, failure of individual ventilation/refrigeration plant or ventilation controls
- Expert advice on entrapment and escape design
- Integrated Emergency Systems and Procedures

Ventilation Plant and Equipment

- Equipment Design: fans, refrigeration systems
- Tender specifications, Tender evaluation
- Plant Performance and Acceptance Testing

Outsourcing of Day-To-Day Ventilation Design

- Day-to-day advice on heat, dust, diesel fumes and other problems
- Maintenance of ventilation network; advice on forthcoming ventilation changes, controls, fans, Ventilation planning
- Advice on future requirements, including equipment
- Fault-finding, Problem solving

Education, Seminars, Training

- Seminars or training courses on working in heat, egress or Occupational health and safety topics for managers, supervisors, workers, safety and health committees or engineers
- Ventilation training for engineers and ventilation officers
- National accreditation for most courses via TAFE Queensland
- Writing training material

To Contact Us

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Mine Ventilation Australia

ACN 087 666 340

Consulting Services



Mine Ventilation Australia

“Appropriate workplace environmental conditions have a direct impact on improved health, safety, productivity, morale, turnover and costs”

What is Mine Ventilation Australia?

MVA is the specialist, full-service mine and sub-surface ventilation engineering consultancy serving Australia, Asia and the Pacific. We provide a highly professional, complete, one-stop service in:

- Sub-surface and mine ventilation
- Mine refrigeration and air-conditioning
- Working in heat protocols and heat illness
- Dusts and mine gases, diesel fumes and particulates
- Ergonomics, including noise, illumination and vibration
- Occupational health investigations and advice
- Occupational health medicals and medico-legal work
- Emergency escape (egress) systems and planning
- Training courses and seminars

Besides underground mines, we also provide practical support for civil projects and above-ground work environments with related needs.

Our Guarantee to our Clients

- We will listen to you
- We will explain things to you
- We will be available, at worst returning your phone call, fax or e-mail within 24 hours
- We will keep our commitments to you
- The advice we give will always be of an exceptional standard
- You will receive the advice and help you need at reasonable rates
- You will be kept up to date
- We will always act with integrity, and your business affairs will remain confidential

We adhere to the:

- AusIMM Code of Ethics
- MICA/AusIMM Code for Consultants
- AusIMM Safety Vision and Principles

Who is Mine Ventilation Australia?

Dr D. J. (Rick) Brake is a Chartered Practising Mining Engineer with 25 years experience in underground and open cut operations in senior planning and operating roles in Australia and North America. He graduated in 1979 with First Class Honours from the University of Queensland, completed a Master of Business Administration from Deakin University in Victoria in 1991 and a PhD in physiology at the School of Public Health at Curtin University in the area of human heat stress in 2002. He has published extensively in the areas of mine ventilation, refrigeration and cooling, emergency egress and entrapment and human heat stress. Rick is a Fellow of the Australasian Institute of Mining and Metallurgy, a member of the Mine Ventilation Society of South Africa, and a Member of the Minerals Industry Consultants Association of Australia.

Rick was Ventilation Superintendent for the four Mount Isa underground mines in the mid 1980s. He was a member of the Editorial Committee for the Fourth International Mine Ventilation Congress in 1988 and a member of the Editorial and Organising committees for the Eighth International Mine Ventilation Congress in 2005. From 1997 to 1999, Rick was project manager for the ventilation and refrigeration design for the new 3.5 Mtpa Enterprise mine at Isa, which is the deepest and hottest mine in Australia. Here he led a project team that also developed new heat stress protocols (which subsequently won the Queensland Mining Industry Health and Safety Innovation Award for 1999 and was runner-up for the MCA National Awards in 2000) and new egress and entrapment standards, both of which are now becoming widely adopted in Australian mines. He left MIM in 1999 to form his own consulting company, Mine Ventilation Australia (MVA). In addition to mine ventilation, heat stress and egress consulting, Rick has been principal technical adviser in the area of mine refrigeration to a number of clients including MIM, which won the Institute of Engineers Engineering Excellence Award (Queensland) for 2001, MPI Mining (Stawell), Newcrest (Telfer) and APCC (Udon [Thailand]), covering all styles of refrigeration including: bulk surface and underground air cooling, underground cooling towers, underground spot coolers and reticulated chilled water



Rick Brake



Tony Nixon



Dr Graham Bates

Tony Nixon has over 30 years of ventilation experience in underground mining in Australia, and was Ventilation Superintendent at Mount Isa from 1989 until 1999. He is one of the best-known and most well-regarded ventilation practitioners in Australia. He has experience in ventilating virtually every mining method currently in use in Australia. His hands-on experience and attention to detail result in tried and proven, and cost-effective, solutions to ventilation problems. Tony's skills are ideally suited to small to medium sized mines who do not have an experienced ventilation engineer.

Dr Graham Bates is a medical physiologist, ergonomist and Senior Lecturer at the School of Public Health at Curtin University in Perth. He has extensive experience both teaching and consulting in a wide range of occupational and environmental physiology. He is a member of the Ergonomics Society of Australia, the Ergonomics Society of South East Asia and a Member of the Australasian College of Tropical Medicine. He has recently developed the world's first pocket-sized Heat Stress Meter. He also has extensive experience in medico-legal matters.

Rick, Tony and Graham have authored or co-authored numerous recent papers in their areas of expertise. See the MVA web site (www.mvaust.com.au) for copies.

They have also introduced new working-in-heat protocols and the world's first, fully-functional Heat Stress Meter to many of Australia's large and small underground mines, which have lifted productivity in these harsh environments and simultaneously reduced heat illness. These protocols won a prestigious industry award for occupational health and safety innovation.

A mine is more than a collection of plant and equipment. It is a system in which the task and the worker need to be matched to provide a safe, healthy and productive environment. MVA has the combination of engineering and occupational health skills to provide flexible, value-adding delivery of services for your operation. MVA can conduct one-off audits or routine monitoring of all workplace environmental issues & can provide cost-effective, expert advice on the full range of ergonomic issues including illumination and noise.

MVA is available for both project-specific work and also to work in a "partnering" environment to provide for your day-to-day or on-going requirements.