12 Flinders Parade
Sandgate QLD 4017
Australia
ACN 087 666 340
ABN/GST 55 087 666 340

Phone: +61 (0) 404 018 868
E-mail: mvamail@mvaust.com.au
Web: www.mvaust.com.au

**Mine Ventilation Australia**
**subsurface ventilation specialists**

# Capability Statement

Mine Ventilation Australia provides specialist services in the areas of underground mine ventilation, heat stress, underground cooling strategies and mine refrigeration design, and emergency egress and entrapment. Since its inception in 1999, MVA has provided consulting services to over 90 Australian and overseas clients covering hard-rock mines, potash and industrial mineral mines and heat stress consulting in surface industrial and non-mining plants. Services include conducting various types of technical studies in mine ventilation, ventilation audits and fault-finding, mentoring services of on-site staff, underground temperature (climate) modelling, advice on reducing heat stress, facilitating risk assessments in ventilation and related fields, specification and selection of ventilation and refrigeration equipment, technical tender evaluations and providing 1-day and 5-day technical workshops in coal and hardrock mine ventilation, Ventsim modelling and psychrometry, underground climate modelling, heat loads and mine refrigeration, heat stress and egress and entrapment. Some of these courses are available in Nationally Accredited formats through the Australian Qualifications Framework. Key technical staff are Rick Brake (Director and Principal Consultant), Tony Nixon (Ventilation consultant). Bill Taylor is an associate in the area of coal mine training.

**Dr D. J. (Rick) Brake** is a Chartered Engineer (Mining discipline) with 30 years' experience in underground and open cut operations in senior planning and operating roles in Australia and North America. He graduated 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 a First Class Mine Manager's Certificate of Competency (Qld, metalliferous) and Statutory Ventilation Officer qualifications (Qld, Coal). He is also a government-licensed Radiation Technician in South Australia for sealed sources (fixed industrial gauges) and unsealed sources (radioactive ores and concentrates). He has published extensively in the areas of mine ventilation, refrigeration and cooling, emergency egress and entrapment and human heat stress (refer separate list of papers). Rick is a Fellow of the Australasian Institute of Mining and Metallurgy (also serving on the AusIMM Mining Society committee), an invited member of the AusIMM Expert Speaker program, a member of the Mine Ventilation Society of South Africa, a Member of the Minerals Industry Consultants Association of Australia, as well as a Registered Professional Engineer (Queensland).

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, a member of the Editorial and Organising committees for the Eighth International Mine Ventilation Congress in 2005 and a member of the Editorial and/or Organising committees for the 12$^{th}$ and 13$^{th}$ US/North American Mine Ventilation Symposia in 2008 and 2010 and a member of the Organising committee for the 2$^{nd}$ Australian mine ventilation conference. 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 was 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 have become 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 covering all styles of refrigeration including: bulk surface and underground air cooling, underground cooling towers, underground spot coolers and reticulated chilled water. He has also been involved as an Expert witness in Australia, the USA and Canada in several areas of mine ventilation, egress/entrapment, toxic gas poisoning and heat stress/stroke.

**Tony Nixon** is a Senior Ventilation Consultant with MVA and is an expert in Ventsim modelling. He has 45 years continuous experience in underground hardrock mine ventilation. He has an Advanced Ventilation Officer's Certificate from the Mine Ventilation Society of South Africa.

Tony has experience in ventilating virtually every underground hardrock mining method, including all forms of cut and fill, sub level caving, VCR, SURF (stoping under rock fill), panel and open stoping. He also has extensive experience with ducted ventilation systems, having designed the 2.5 km single heading auxiliary ventilation system for the George Fisher mine, and has extensive experience with refrigerated mines and dust control, extraction and filtration systems. He is also an expert on auditing and fault-finding mine ventilation systems.

**Bill Taylor** is a practicing Underground Mine Manager with 40 years industry experience in both underground coal mining and quarrying as a Mine Deputy, Quarry Manager and Mines Inspector. He graduated from Auckland University with an MSc in Geography, completed a BSc and BSc Hons in Environment and Resources with the Open University in the UK. He has First Class Certificates of Competency for Underground Coal Mining granted in the UK, New Zealand, NSW, WA and Queensland.

He has had previous tutoring experience with Waikato Polytechnic in New Zealand and currently acts as a mentor for candidates preparing for the Third Class Certificate of Competency. He is also panel chair for the Rockhampton Mine Deputies Oral Panel and has previously sat on the OCE Oral Panel.

Further details about MVA are available on our web site at www.mvaust.com.au