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Mine Ventilation Australia subsurface ventilation specialists

Capability Statement

Mine Ventilation Australia provides specialist services in the areas of mine ventilation, heat stress in miners, underground cooling strategies and mine refrigeration design, and emergency egress and entrapment. Since its inception in 1999, MVA has provided consulting services to over 30 coal and hard-rock mines. Services include conducting various types of technical studies in mine ventilation, support (mentoring services) of on-site staff, climate modelling, advice on reducing heat stress, technical presentations to management and workforce on heat stress, facilitating risk assessments in heat stress and egress, specification and selection of ventilation and refrigeration equipment, and providing 1-day and 5-day technical workshops in heat stress, egress and entrapment, coal and coal and hardrock mine ventilation, Ventsim modelling and psychrometry, climate modelling, heat loads and mine refrigeration. These courses are available in Nationally Accredited formats through the Australian Qualifications Framework via a partnership between MVA and TAFE Queensland Mining Services (TQMS). MVA also develops and sells specialist software for the evaluation of heat stress and auxiliary ventilation (leaky duct) problems and sells videos and licenses presentations in the areas of working-in-heat. Key technical staff consists of Rick Brake (Principal Consultant) and Tony Nixon (Ventilation Consultant).

Dr D. J. (Rick) Brake is a Chartered Practicing 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 a First Class Mine Manager's Certificate of Competency (Qld, metalliferous) and Statutory Ventilation Officer qualifications (Qld, Coal). He has an Advanced Diploma in Mine Ventilation and 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, 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 APPC (Udon [Thailand]), covering all styles of refrigeration including: bulk surface and underground air cooling, underground cooling towers, underground spot coolers and reticulated chilled water.

Tony Nixon is a Senior Ventilation Consultant with MVA and is an expert in Ventsim modelling. He has 40 years continuous experience in underground mine ventilation and is probably Australia's most experienced underground airflow adviser. 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 (stopping under rock fill), panel and open stopping. 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 extraction and filtration systems. He is also an expert on auditing and fault-finding mine ventilation systems.

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