

**Syd S. Peng Ground Control Award**  
**Dr. Rob Thomas**  
**2020**

It is my distinct pleasure to nominate Dr. Rob Thomas for the Syd S. Peng Ground Control Award. Dr. Thomas's contributions have been ongoing since 1989 when he worked as Geotechnical Engineer for British Coal Corporation in the UK after completing a BS in Geology at Liverpool University. The learning never stopped and while simultaneously working at British Coal, Dr. Thomas earned a PhD in Rock Mechanics in 1991 from Nottingham University in the United Kingdom. Relocating to Australia, where he still lives, he accepted a position as a Geotechnical Engineer at ACIRL. After two years working as a consultant for Barret Fuller and Partners, he formed his own consultancy serving as the Principal Engineer and Director of Strata Engineering. Creating a successful business while keeping "hands-on" that group flourished into a global practice that tackled the most difficult ground control conditions and developed state-of-art designs in longwall extraction and gateroad stabilization. The business was sold to Golder Associates where Dr. Thomas continued his work as Underground Coal Practice Leader for the next 5 years. When that agreement was fulfilled, he developed another business, Strata<sup>2</sup> that has multidiscipline engineers and practitioners that are solving mining's most complex ground control issues in Australia, North America or wherever Dr. Thomas's expertise is required.

Dr. Thomas's skill set includes both the basic and complex topics in the ground control discipline: Ground support design, Pillar design, Longwall geomechanics, Longwall recoveries, Mine layout assessments, Multi-seam mining, Coal burst, Mine feasibility studies, Highwall mining, Underground strata monitoring, Geotechnical risk assessment and Strata management plans.

Three areas of expertise that should be highlighted that speaks to Dr. Thomas's expertise and contributions to the science of ground control are: the design, installation and instrumentation of full-face longwall recovery rooms; design of coal burst solutions during roadway development using yield pillars; and, most recently, the design of a longwall pre-driven recovery road using cuttable grout pillars.

In their infancy, high-capacity resin-grouted cables were not well understood and the application and evaluation techniques (instrumentation) had not really been developed. Dr. Thomas and his team went underground and through a series of installations and site-specific instrumentation packages, developed design recommendations. These discoveries and subsequent techniques are still widely used today and led naturally to the design of full-face longwall recovery rooms, using combinations of high capacity cables, standing support and rib confinement/support systems. Dr. Thomas has designed and successfully completed full-face longwall recoveries in Australia and US and his expertise is sought to review plans several times a year.

Coal burst have been a safety concern in underground coal mining, both gas and stress induced. These are particularly dangerous and have been the root cause of accidents and fatalities around the globe. Dr. Thomas developed an effective support system and

installation scenario, complete with a hazard management system, to mine roadways and longwall retreat. These guidelines are now being used at operations with similar conditions or at least as a starting point for these critical system designs.

While traditional full-face longwall recovery rooms are completed with a combination of intrinsic and standing supports, Dr. Thomas developed a “grout pillar system” that could be used effectively in weak roof conditions. These grout pillars are reinforced and cut through during the final extraction process but provide critical support when the fender pillar is being mined and carry less and less load. This is a relatively new development and it has been so effective that other operations are already examining it for future recoveries.

Clearly, innovation, evaluation and implementation has been the process that Dr. Thomas has followed throughout his 30+ year career. He created and successfully managed two business while remaining hands-on with the technical work, which was always his passion. More importantly, and a vision of Dr Peng’s when he created this award, he is only getting started!! Having formed a new Geotechnical Consultancy in the Ground Control Discipline, new challenges and problems will no doubt be addressed and solved by Dr. Thomas.

Thank you for your consideration,

*Stephen C. Tadolini*

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