Ian Brunton – ITASCA Australia

Principal Geotechnical Engineer

Expertise	Rock Mechanics, Geotechnical Engineering, Numerical Modeling, Drill and Blast, Gravity Flow)
Education	Ph.D. (Mining Engineering), 2009 University of Queensland, Queensland, Australia
	M.S. (Mining Engineering), 1997 University of Queensland, Queensland, Australia
	B.S. (Geological Engineering), 1994 Royal Melbourne Institute of Technology University (RMIT), Melbourne, Australia
Professional Affiliations	Member: Canadian Institute of Mining, Metallurgy and Petroleum

Professional Experience

2015 - Present	ITASCA Australia Pty Ltd, Melbourne, Australia Principal Geotechnical Engineer
2012 - 2015	Newcrest Mining Limited, Cadia Valley Operations, Melbourne, Australia Geotechnical Superintendent
2007 - 2012	University of Queensland, Queensland, Australia Senior Research Engineer
2007 - 2012	Newcrest Mining Limited, Cadia Valley Operations, Melbourne, Australia Senior Geotechnical Engineer
2006 - 2007	Newcrest Mining Limited, Ridgeway Sublevel Cave, Melbourne, Australia Senior Geotechnical Engineer
2001 - 2006	University of Queensland, Queensland, Australia Research Engineer
1999 - 2001	Connell Wagner, Brisbane, Australia Geotechnical Engineer
1997 - 1999	Kalgoorlie Consolidated Gold Mines, Fimiston Operations, Boulder, Australia Geotechnical/Drill and Blast Engineer
1995 - 1997	University of Queensland, Queensland, Australia Postgraduate Research Student

Project Experience

Underground Mining

Rock Mass Characterization: Collection and analysis of scanline and face mapping, core logging, and geophysics data. Statistical analysis of data to delineate geotechnical domains and associated rock mass properties.

Ground Monitoring Design and Implementation: Convergence, TDR, extensometers (short and deep hole), stress measurement, seismic, and hydrology.

Excavation Design: Numerical and empirical analysis, ground support, mine sequence, and ground control management plan.

Development and Updating of Mine Major Hazard Management Plans: Stability, inrush, air-blast, cave material flow, and cave-surface interaction.

Cave Propagation : Interpretation, propagation, and air-gap geometry.

Sublevel and Block Cave Material Flow: Numerical analysis, monitoring (markers), grade reconciliation, draw strategy, and air-gap management.

Sublevel and Block Cave Fragmentation: Primary and secondary fragmentation prediction, and measurement (photographic and visual assessment).

Open Pit Mining

Rock Mass Characterization: Collection and analysis of scanline and face mapping, core logging, and geophysics data. Statistical analysis of data to delineate geotechnical domains and associated rock mass properties.

Ground Monitoring Design and Implementation: Deep hole extensometers, seismic, and hydrology.

Wall Stability: Numerical and empirical stability analysis, ground support design, and wall control management.

Mine-Floor Stability Management: Delineation and management of underground voids and interaction with surface mining.

Blast Monitoring: Maintenance of vibration and overpressure monitoring stations, fragmentation assessment (photographic), and rock mass blast damage (open holes, geophysics, and extensometers).

Drill and Blast: Drill and blast design and implementation, environmental compliance (vibration and overpressure), drill and blast domain delineation, excavator productivity studies, wall control (pre-split and limit blast design), interaction with underground excavations, and mine to mill optimization research and implementation.

Civil

Geotechnical Site Investigation: Investigations in soil, soft rock, and hard rock.

Civil Infrastructure Design: Numerical and empirical design for geotechnical aspects associated with foundation, retaining wall, slope, and road basement projects.