

**Principal Geotechnical Engineer**

**Expertise** Surface and underground hard rock mining, rock mechanics, rock slope geomechanics, Block and Sub-level caving geomechanics, hydraulic fracturing, cave propagation, surface and underground deformation monitoring, rock mass characterization, tunneling, ground support, numerical modelling, CAD, mine seismicity, risk assessment, trigger-action-response-plan development, reverse engineering and back analysis, surface and underground geohazard management, mine recovery and geotechnical crisis management, feasibility studies.

**Education** Master of Engineering (Rock Mechanics), 2008-2013  
University of NSW, Sydney, NSW, Australia  
Master of Engineering Science (Mining Geomechanics), 2003-2008  
University of NSW, Sydney, NSW, Australia  
Bachelor of Engineering (Mining Engineering), 1997-2000  
University of NSW, Sydney, NSW, Australia

**Registration** Registered Professional Engineer, Papua New Guinea

**Professional Affiliations** Member: The Australasian Institute of Mining & Metallurgy

**Honors** BE Hons Class 2, Division 1 (2000)

**Professional Experience**

2022 – Present *Itasca Australia Pty Ltd, Orange, NSW, Australia  
Principal Geotechnical Engineer*

2018 – 2022 *Newcrest Mining Ltd, Group Geotechnical Services,  
Specialist Geotechnical Engineer (Feasibility Studies)*

2017 – 2018 *Newcrest Mining Ltd, Cadia, NSW, Australia  
Specialist Geotechnical Engineer (Projects)*

2015 – 2017 *Newcrest Mining Ltd, Lihir Open Pit, New Ireland Province, PNG  
Senior Geotechnical Engineer (Geotechnical and Mine Geothermal  
Operations)*

2013 – 2014 *Newcrest Mining Ltd, Cadia East Panel Cave, NSW, Australia  
Senior Geotechnical Engineer (Intensive Pre-conditioning)*

2010 – 2012 *Newcrest Mining Ltd, Ridgeway Deeps Block Cave, Halo Sub-Level  
Cave, Cadia Hill Open Pit, NSW, Australia  
Senior Geotechnical Engineer (Operations)*

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2009 – 2010	<i>Newcrest Mining Ltd, Ridgeway Deeps Block Cave, NSW, Australia Geotechnical Engineer (Operations)</i>
2006 – 2009	<i>Newcrest Mining Ltd, Cadia Hill Open Pit, NSW, Australia Geotechnical Engineer (Operations)</i>
2001 – 2006	<i>Newcrest Mining Ltd, Ridgeway Sub-Level Cave, NSW, Australia Mining Engineer (Production, Development, Ventilation, Underground Operations, Survey)</i>

***Project Experience***

*(2020-2022). Pre-Feasibility & Feasibility Study for Cadia East Panel Cave 1 Stage 2 Expansion (Numerical Analysis, Monitoring Design, Hydraulic Fracturing Design, Ground Support Design):* Conducted a full geotechnical assessment of the Cadia East Panel Cave 1 Stage 2 Expansion project to fulfil both the Pre-Feasibility and Feasibility Study requirements. The project involved numerical modelling using FLAC3D to assess mine sequencing options and excavation stability, design of the surface-based hydraulic fracturing program for cave propagation, formulation of a detailed tunnel deformation and cave propagation monitoring plan using state-of-the-art technology, and design of the mine's ground support systems using a displacement-based approach for both static and dynamic ground conditions.

*(2018-2020). Pre-Feasibility & Feasibility Study for Cadia East Panel Cave 2 Stage-3 Expansion (Numerical Analysis, Sequence Assessment, Hydraulic Fracturing Design):* Conducted a geotechnical assessment of the Cadia East Panel Cave 2 Stage 3 Expansion project to fulfil both the Pre-Feasibility and Feasibility Study requirements. The project involved numerical modelling using FLAC3D to conduct a mine wide stress analysis to back analyse and forward predict depth of damage and strain-bursting potential to inform ground support design, a numerical assessment of advanced undercut and post undercut sequencing options, and design of the underground-based hydraulic fracturing program to control cave propagation.

*(2014). Project Management of a Surface-Based Hydraulic Fracturing Program for Cave Propagation Through Hard Near-Surface Rock Masses:* Project managed the design and implementation of a surface-based hydraulic fracturing program to successfully propagate the Cadia East Panel Cave 1 cave zone to surface through hard near-surface rock masses.

*(2013-2014). Project Management of an Underground Hydraulic Fracturing Program:* Project managed the design and implementation of over 2,000 hydraulic fractures for the Cadia East Panel Cave 2 intensive pre-conditioning program for cave propagation purposes.