

Geotechnical Engineering

Expertise

Site investigation and instrumentation, practical application of numerical models to foundation design, slope stability, subsidence and cave assessment.

Education

PhD candidate (Caving Mechanics)
University of New South Wales, Australia

M.E. (Mining), 2003
University of New South Wales, Australia

B.E. (Geological), 1999
Royal Melbourne Institute of Technology, Australia

Professional Experience

2007 - Present

*Itasca Australia Pty Ltd, Melbourne
Senior Geological Engineer*

2007

*Itasca Consulting Group, Inc., Minneapolis, Minnesota
Mining/ Geotechnical Engineer (January - June)*

2004 - 2007

*Barr Engineering Company, Minneapolis, Minnesota
Geotechnical Engineer*

2002 - 2004

URS Corporation, Minneapolis, Minnesota, Geotechnical Engineer

2000 - 2002

NSW Coal Compensation Board, Sydney, Australia, Mining Engineer

1999 - 2000

Coffey Geosciences, Sydney, Australia, Geotechnical Engineer

1998 - 1999

BHP Iron Ore, Mt Whaleback, Newman, Australia, Summer Intern

1997 - 1998

SANTOS, Adelaide, Australia, Summer Intern

Project Experience

Cave Mining

Three-dimensional cave-propagation assessment including prediction of yielded, mobilized and seismogenic zones at Northparkes E48 Mine, Ridgeway Deeps Block Cave, Palabora Block Cave, Bingham Canyon, Chuquicamata Mine, Cadia East Project, Oyu Tolgoi, Kiruna Mine.

Subsidence Assessment

Three-dimensional subsidence analysis including prediction of cave zone, fractured zone, and zone of continuous subsidence at the Northparkes E48 Mine, Grace Mine, Cadia East, Palabora Block Cave.

Slope Stability Analysis

Slope stability analyses including: rock-slope assessment to predict the stability of an open-pit slope during rapid dewatering at the Hibbing Taconite Scranton Pit, Minnesota; slope remediation and pile design, West Elk Mine, Colorado; and pit-slope stability analysis, Mt Whaleback Iron Ore Mine, Palabora, Mt Keith Open Pit Nickel Mine.

Tailings Storage-Facility Analysis and Design

Concept design for upstream tailings deposition at Iron Ore Company of Canada's Newfoundland operations; feasibility study, and subsequent design and staged-construction stability assessment for an upstream construction tailings facility, PolyMet Mining Corporation, Minnesota.

Tunneling

Geotechnical assessment of underground tunnel alignment for the Parramatta Rail Link, Sydney, Australia and the Northside Storage Tunnel, Sydney, Australia.

Foundation Design

Three-dimensional wind-turbine foundation assessment and design to simulate wind loading conditions, USA and Canada. Roller-coaster foundation assessment and redesign to back-analyze in-situ conditions and model stabilization strategies at the Silver Dollar City Amusement Park, Missouri.

Fundamental Rock Mechanics

Development and application of the Ubiquitous Joint Rock Mass (UJRM) methodology for cave and subsidence assessment.