



Country of Citizenship: Australia

Educational Qualifications: BE Mining (First Class Honours), Sydney University 1986
ME (Research) Rock Mechanics, Sydney Uni, 1990
Grad Dip Applied Finance & Investment, Securities Institute (Aust), 1998

Awards: University Medal, Sydney University 1986
Scholarship for graduate studies
NSW Rhodes Scholar Runner-up 1985 and 1987

Professional Associations: Member Australasian Institute of Mining and Metallurgy
Member Institute of Engineers
Chartered Professional Engineer

Publications: 25

Languages: English, Italian

FIELDS OF SPECIAL COMPETENCE:

- mining geotechnics,
- tunnels and underground structures,
- underground construction supervision.

Robert has worked on over 70 mining and tunnelling projects from feasibility design through to planning, implementation and remedial work. Some of these projects are:

- Airport Link, Brisbane QLD
- Lane Cove Road Tunnel, NSW
- Epping-Chatswood Rail tunnel, NSW
- Northside Storage Tunnel, NSW
- M5 East Tunnel, NSW
- Eastern Distributor tunnels, NSW
- English Channel Tunnel, UK
- Geita Gold, Tanzania
- Batu Hijau, Indonesia
- McArthur River, QLD
- Macraes Gold Mine, NZ
- Waihi Gold Mine, NZ
- Wesfarmers & Griffin coal deposits, Collie WA
- Tom Price & Paraburdoo Iron Ore Mines, WA

EXPERIENCE:

1999 to present

Pells Sullivan Meynink Pty Ltd Sydney – Principal (2007 – present) Managing Principal
Specialist lecturer in rock engineering for underground structures - School of Mines and Department of Civil Engineering, University of New South Wales

1994 – 1998

Pells Sullivan Meynink Pty Ltd Sydney - Senior Consultant

1991 – 1994

Coffey Partners International Pty Ltd Sydney - Senior Geotechnical Engineer

1989 – 1991

Eurotunnel and Golder Associates United Kingdom - Geotechnical Engineer

1987 – 1989

Coleman & Associates Pty Ltd Sydney and Thailand - Mining Engineer/Computer Specialist

1986 – 1987

Australian Coal Research Laboratories Ltd Sydney - Mining Engineer

TUNNELLING PROJECTS

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Buranda Bus Tunnel, Brisbane	Assessment of structural condition of existing concrete lining.
Nam Theun 2 Hydro, Laos	Geotechnical and tunnelling advice in relation to a tunnel collapse in kaarst limestone.
Airport Link, Brisbane	Geotechnical and rock mechanics design for tender of twin 4km long two and three lane road tunnels through rock and alluvium using roadheader, TBM and EPB.
Desalination Project, Sydney	Reviewer of geotechnical conditions for tender of 2 2km TBM tunnels and associated works. Design of precast universal concrete segments for 4m TBM.
Hobson Bay Sewer, Auckland, NZ	Review of tunnelling conditions and support types for a contractor's tender.
South Island, NZ	Route selection, concept design, production estimates for 20kms of TBM tunnels for hydro power scheme.
Batu Hijua Drainage Tunnel, Sumbawa, Indonesia	Feasibility study (geotechnical conditions, tunnel support) for a 4km tunnel, three (cross sections >100m ²) pumping chambers, access adits to connect into the open pit.
Wambo Coal, NSW	Design of rail tunnel beneath major highway.
EastLink Tunnel, Vic	Design review of secondary lining for contractor. Review of geotechnical conditions and support design for twin 2km long road tunnels for tenderer.
Lane Cove Tunnel, NSW	Lead tunnel designer for eastern section of the tunnels. The twin 2 lane tunnels had as little as 3m of rock cover underlying up to 18m of loose fill. Review of geotechnical conditions and support design for twin 3.5km long road tunnels for tenderer.
Parramatta-Chatswood Rail Link, NSW	Specialist advice to the contractor concerning ground conditions and ground support. Design of 200m of twin rail tunnels in residual shales beneath the operating North Shore rail line. Design of 11km long twin railway tunnels and five underground stations for tenderer.
Bakun Headrace Tunnel, Philippines	Review condition of unlined rock tunnel subject to up to 550m water head. Prepare geotechnical model of tunnel from shift records, tunnel logs etc. Coupled stress and pore pressure analyses. Recommend remedial measures to allow faster dewatering rates.

TUNNELLING PROJECTS

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Energy Australia Cable Tunnel, NSW	Support design of 2km long cable tunnel through Sydney for tenderer.
Transgrid Cable Tunnel, NSW	Support design of 3km long cable tunnel through Sydney for tenderer.
Northside Storage Tunnel, NSW	Specialist advice concerning difficult ground conditions and ground support.
M5 East Tunnel, NSW	Review of geotechnical conditions and tunnel support for tender. Design verification of 4 km long road tunnel. Specialist advice in relation to stress induced rock falls.
Sydney Eastern Distributor, NSW	Design of 3km long double deck road tunnel. Construction supervision.
Picnic Point-Haymarket Cable Tunnel, NSW	Preliminary evaluation of tunnelling options.
North Quay to Breakfast Creek Sewer, QLD	Review of geotechnical conditions and tunnel support for tender
Wombarra Drainage Tunnel, NSW	Review of geotechnical conditions and tunnel support for tender. Construction supervision.
West Ryde Drainage Tunnel, NSW	Review of geotechnical conditions and ongoing advice to contractor. Construction advice for 1 km long drainage tunnel excavated by roadheader.
English Channel Tunnel, UK	Construction supervision of NATM excavation. Preparation of technical documents for claims negotiations.
Mersey Estuary Pollution Alleviation Scheme, UK	Site investigation of interceptor sewer tunnel.
M2 Motorway, NSW	Geotechnical review of Norfolk Road twin tunnels.
Ulan Coal Drift	Review of support for decline.
Elouera Drift	Support design for new coal mine drift.
Umiray - Angat Transbasin Tunnel, Malaysia.	Review of tunnel lining.
NW Sewer, Melbourne.	Preparation of possible claim documents in connection with 4km section of 4m diameter TBM tunnel in mixed face of basalt, sand and quartzite with high water inflows.

UNDERGROUND MINING PROJECTS

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Mineral Hill, Condobolin, NSW	Pre-feasibility underground mining studies.
Ban Phuc Nickel Mine, Vietnam	Assessment of proposed 1.8 to 3.6m diameter raisebores.
Tallerwang, Mudgee NSW	Ongoing peer review of underground stoping and development.
Oceana Gold Frasers Gold Mine, New Zealand	Assessment of a proposed 4 to 6m diameter raisebore.
Northparkes Mine, NSW	Geotechnical mapping of access drive to the E48 orebody.
Favona Decline, New Zealand	Review of tunnelling conditions and support types for the underground gold mine at Waihi, New Zealand.
Batu Hijua Drainage Tunnel, Sumbawa, Indonesia	Feasibility study (geotechnical conditions, tunnel support) for a 4km tunnel, three (cross sections >100m ²) pumping chambers, access adits to connect into the open pit.
Southland Colliery, NSW	Review of condition of underground coal mine for contract mining tender.
Cannington Project, Qld	Review of geotechnical conditions. On site geotechnical engineer during the excavation of the initial length of the decline
Ballarat Goldfields, VIC	Geotechnical model and design of primary and permanent support for 250m long 1 in 8 decline. Ongoing geotechnical advice.
Ulan Coal Drift	Review of support for decline.
Elouera Drift	Support design for new coal mine drift.
Cosmo Howley Gold Mine, NT	Assessment of underground mining.
Granny Smith Gold Mine, WA	Feasibility study for underground mining.

Peculiar Knob, Buzzard Projects, SA	Feasibility open pit studies for iron ore mines.
Mineral Hill, Condobolin, NSW	Pre-feasibility open pit mining studies.
Geita Gold Mine, Tanzania	Design of pit slopes. Ongoing review of operations.
Reefton Gold Mine, NZ	Design of pit slopes in greywacke and argillite. Ongoing review of operations.
Pajingo Operations, Qld	Designs of several open pits (<80m deep)
McArthur River, Qld	Ongoing review of operations and redesign of open pit.
Macraes Gold Mine, NZ	Design of pit slopes and depressurisation strategies in schist and alluvials. Cost benefit analysis of initial bulk excavation and clean-up of failed slope. Implementation of slope monitoring programme. Ongoing review of operations.
Mt. Leyshon Gold Mine, Qld	Review and redesign of slope design for 400m deep pit. Hydrogeological testing programme for pit depressurisation. Cost benefit analysis of cable bolting, relocating the haul road and bulk waste removal.
Union Reefs Gold Mine, NT	Review and redesign of open pit.
Jubilee Gold Mine, WA	Review of toppling failure and large rock mass failure in open pit.
Mt Martin Gold Mine, WA	Assessment of existing open pit and design of staged cutbacks.
Yakabindie Nickel, WA	Costing of geotechnical drilling, review and slope design of two open pits to 350m.
Bannockburn Gold Mine, WA	Open pit slope design.
Tom Price Iron Ore Mine, WA	Design, costing and implementation of monitoring programme for slopes in BIF and shale of 350m high. Review and redesign of slope for 200m high wall in high strength but poor quality rock mass.
Paraburdoo Iron Ore Mine, WA	Design of slopes for 200m deep pit in BIF and shale.
Darlot Gold Mine, WA	Review and redesign of open pit slope design. Cost benefit analysis.
Kunwarara Magnesia Mine, Qld	Review of tailings densities.
Dominion Meekatharra, WA Gold Operations	Design of short to medium life open pits.

OPEN PIT PROJECTS - NON COAL

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Burdekin Resources, Cobar, NSW	Site investigation, feasibility slope design, reviews during operation and advice for closure.
Orlando Gold Mine, Tennant Creek, NT	Feasibility slope design for short life open pit.
Kidston Gold Mine, QLD	Site investigation, geotechnical logging of oriented core, slope design for proposed 250m deep open pit.
Mt. Edon Gold Mine, WA	Review of design for 150m deep open pit.
Kelian Gold Mine, Indonesia	Review of design of open pit to 300m deep in tropical environment.
Patonga Quarry, NSW	Review of operations, preparation of affidavits for Land & Environment Court for city council.
Honeymoon Well, Nickel Project, WA	Preliminary slope design of 300+m deep pit.
Coorabin Clay Quarry, NSW	Geotechnical design of open pit, risk assessment to meet NSW Department of Mines requirements.

OPEN PIT PROJECTS - COAL

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Benga Coal Project, Mozambique	Feasibility geotechnical studies for open pit mining.
Muja Coal Mine, WA	Slope design, in pit dump and haul road design. Ongoing review of operations.
Wambo Coal, NSW	Design of rail tunnel beneath major highway
Ewington Coal Project, WA	Technical audit of groundwater and geotechnical studies. Cost scheduling for dewatering project. Ongoing review of operations.
Premier Coal Mine, WA	Slope design, in pit dump and haul road design. Ongoing review of operations.
Donaldson Coal Mine, NSW	Ongoing geotechnical advice.
Stratford Coal Mine, NSW	Site investigation for infrastructure. Geotechnical advice during mining.
Duralie Coal Mine, NSW	Site investigation for infrastructure. Geotechnical advice during mining.
Mt Arthur North, NSW	Preliminary designs for dams, roads and infrastructure for tenderer.
Cumnock South, Hunter Valley, NSW	Review of highwall slope design in an area of existing underground workings.
Kaltim Prima Coal, Indonesia	Preliminary open pit mine design for several prospects. Triaxial shear strength testing of core. Truck requirements and dumping strategy for 5 and 15 Year plans.
Banko Barat Coal, Indonesia	Open pit mine design studies.
Petangis Coal, Indonesia	Assessment of highwall failure and subsequent review of highwall slope design.
Oaklands Coal Project, NSW	Detailed cost scheduling for open pit mine dewatering.

WATER SUPPLY AND TAILINGS DAMS AND OTHERS

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Stratford, Gloucester, NSW	Site investigation design and construction overseer for two 15m high clay core rockfill dams.
Duralie, Stratford, NSW	Site investigation and design of nine clay core rockfill dams.
Kaltim Prima Coal, Indonesia	Risk assessment of 13km long conveyor route through fill over swamp and weathered cut slopes in a tropical environment. Assessment of stockpile foundation conditions. Supervision and assessment of pavement stabilisation trials.
Kelian Gold Mine, Indonesia	Design of a 100m high sloping clay core rockfill dam.

PROJECTS INVOLVING EXPERT WITNESS

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Buranda Bus Tunnel, Brisbane	Assessment of structural condition of existing concrete lining.
Nam Theun 2 Hydro, Laos	Tunnelling advice to the client in relation to sub-contractor's claim for unforeseen conditions in a tunnel collapse in kaarst limestone
S1 Sewer, Brisbane, QLD	Preparation of documents and expert advice in relation with a 3m diameter TBM tunnel through the tuffs, and metasediments of Brisbane. Involved in three day mediation to resolve dispute.
Bakun Headrace Tunnel, Philippines	Preparation of documents in connection with unlined rock headrace tunnel.
West Ryde Sewer, NSW	Expert advice regarding tunnelling through soft alluvium.
Fosterville Gold Mine, VIC	Review of existing operation and proposed underground development.
Coorabin Clay Quarry, NSW	Expert advice regarding open pit mining.
NW Sewer, VIC	Preparation of possible claim documents in connection with 4km section of 4m diameter TBM tunnel in mixed face of basalt, sand and quartzite with high water inflows.
Patonga Quarry, NSW	Review of operations, preparation of affidavits for Land & Environment Court for city council.
English Channel Tunnel, United Kingdom	Preparation of claim documents in connection with 7km section of 8.5m diameter TBM tunnel in chalk marl with high water inflow.

PUBLICATIONS

1 of 2

- 1 Bertuzzi R and Clark L (2007 in print)
Large Scale Movement at Macraes Gold Mine
- 2 Loganathan N, Knox S, Maconochie D, Bertuzzi R and Bamforth D (2007 in print)
Case Study: Effective Management of Tunnel Design and Construction Risks
- 3 Bertuzzi R and Wallis J (2008) Rock mass classification is only part of the answer to assess
raiseboring. 10th Underground Operators' Conference AusIMM April 2008
- 4 Swarbrick G and Bertuzzi R (2008) 3D modelling of construction tolerance on trapezoidal
segments 13th Aust Tunnelling Conference, April 2008.
- 5 Bertuzzi R and Clarke S (2007) Design of the Chatswood Soft Ground Tunnel.
Australian Geomechanics Conference, October 2007
- 6 Pells, P.J.N. and Bertuzzi, R. (2007) Limitation of rock mass classification systems
Tunnels & Tunnelling International, April 2007
- 7 Pells, P.J.N. and Bertuzzi, R. (2007) Discussion on the paper by Palmstrom and Broch titled "Use
and misuse of rock mass classification systems with particular reference to the Q-System"
Tunnelling and Underground Space Technology 21 (2006) 575-593
- 8 Bertuzzi R (2005). Tunnelling in Sydney. The next geotechnical step. Mini-symposium on
geotechnical aspects of tunnelling. AGS October 2005
- 9 Badelow F, Best RJ, Bertuzzi R, Maconochie D. Modelling of defect and rock bolt behaviour in
geotechnical numerical analysis for Lane Cove Tunnel. Mini-symposium on geotechnical aspects
of tunnelling. AGS October 2005
- 10 Maconochie DJ, Loganathan N, Bertuzzi R Design of the Lane Cove Tunnel Sydney, 12th Aust
Tunnelling Conference, April 2005.
- 11 Bertuzzi R (2004). 100-Year Design Life of Rock Bolts and Shotcrete. 5th Conference on Ground
Support, Perth September 2004
- 12 Bertuzzi R and Pells PJN (2002). Geotechnical parameters of Sydney Sandstone and shale. Jnl
AGS December 2002
- 13 Bertuzzi R and Pells PJN (2002). The design of rock bolt and shotcrete support of tunnels in
Sydney sandstone. ITA Conference March 2002
- 14 Bertuzzi R and Anderson D (2002). Tunnel monitoring. What's useful?. ITA Conference March
2002
- 15 Bertuzzi R. (1999). The Eastern Distributor Tunnel. Jnl AUCTA, Dec 1999
- 16 Bertuzzi R. (1999). Technical note for estimating catch berm width. Jnl AGS, Vol34 No3 Sept
1999
- 17 Bertuzzi R. and Justice T.R. (1999). Geology of the Eastern Distributor tunnel. 10th Aust
Tunnelling Conference, March 1999.
- 18 Pells, P.J.N. and Bertuzzi, R. (1999). Permanent rockbolts - the problems are in the detail. 10th
Aust. Tunnelling Conference. March 1999.

PUBLICATIONS



- 19 Bertuzzi R., Pells P.J.N. and Harvey P. (1996). 200m of Soft Rock Tunnelling at Cannington. IX Aust. Tunnelling Conference, August 1996.
- 20 Bertuzzi R. (1995). Short Course on the Design of Rock Anchors in Open Pit Mining. Mine Geotechnics Course, Key Centre of Mines, University of New South Wales.
- 21 Bertuzzi R. (1993). Short Course on the Design of Rock Anchors. In-house Training Programme, Coffey Partners International Pty Ltd.
- 22 Pells P.J.N., Bertuzzi R. and Wong P.K. (1993). Notes on Rock Anchors, Rockbolts and Dowels in Civil and Mining Engineering Structures. Short course held in Sydney, Brisbane and Melbourne
- 23 Bertuzzi R. (1992). Philosophy of Slope Design. A Case Study of Geotechnical Investigations at Macraes Flat Gold Mine. Proc. 26th Annual Conference, NZ branch AusIMM, Dunedin.
- 24 Bertuzzi R. and Carter J.P. (1989). Angus Place Subsidence modelling - Joint Case Study. Subsidence Predictions - Stage 2 Math. Modelling Sub-comm. NSW. D.M.R.
- 25 Bertuzzi R. and Carter J.P. (1988). Angus Place Subsidence Modelling - Joint Case Study. Subsidence Predictions - Stage 1 Math. Modelling Sub-comm. NSW D.M.R.