



MARK J. EGGERS
BSc, MSc (Hons) MAusIMM, MAIG

- Countries of Citizenship:** New Zealand and Australia
- Educational Qualifications:**
- Bachelor of Science (Geology), University of Canterbury, NZ, graduated 1984.
 - Master of Science in Engineering Geology, (First Class Honours), University of Canterbury, NZ, graduated 1987
- Professional Associations:**
- Australasian Institute of Mining and Metallurgy
 - Australian Geomechanics Society, affiliated to the International Association of Engineering Geology
 - Australian Institute of Geoscientists
- Publications:** 7

SUMMARY

Mark completed a Bachelor of Science (Geology) in 1983 and a Master of Science in Engineering Geology (First Class Honours) in 1987 at the University of Canterbury, NZ. Partly in conjunction with his Masters studies, Mark worked for both the New Zealand Geological Survey and the New Zealand Forest Service as a geologist on regional geological, landform and slope stability studies for three years. He moved to Sydney in late 1987 where he worked for Coffey Partners International (now Coffey Geosciences) as an Engineering Geologist for six years. Mark joined Pells Sullivan Meynink in 1994 soon after the company's inception where he is now a Principal.

FIELDS OF SPECIAL COMPETENCE

- Open pit mining geotechnics
- Development of geotechnical models in complex settings for civil and mining projects
- Structural geological investigations for hard and soft rock design
- Slope stability investigation and assessment
- Engineering geomorphological studies
- Landform/terrain evaluations
- Urban capability assessments

EXPERIENCE

2000 - Present

Principal - Pells Sullivan Meynink Pty Ltd

1994 - 2000

Senior Consultant - Pells Sullivan Meynink Pty Ltd

1990 - 1994

Senior Engineering Geologist - Coffey Partners International Pty Ltd

1987 - 1990

Engineering Geologist - Coffey & Partners Pty Ltd/Coffey Partners International Pty Ltd

1987

Contract Geologist - New Zealand Geological Survey

1985 - 1986

Field Geologist - New Zealand Forest Service



CONTINUING EDUCATION

August 1998

Short course, "Quantitative Risk Assessment of Soil and Rock Slopes", University of New South Wales, Australia.

July - November 1998

Unit 307, "Management of Professional Services", APESMA and Deakin University MBA course.

August 1999

Short course, "Geotechnical Engineering of Dams", University of New South Wales, Australia.

LECTURESHIP AND COMMITTEES

- University of New South Wales, School of Civil and Environmental Engineering, contribution to the post-graduate program in Master of Engineering Science in Geotechnical Engineering/Engineering Geology since 2003.
 - **CVEN9500 Engineering Geology and Geotechnical Models**
 - "Geomorphology in Geotechnical Engineering"
 - "Concepts of Structural Geology and Their Use in Geotechnical Engineering"
 - **CVEN9506 Geotechnical Mapping and Logging**
 - "Geomorphological Mapping for Engineering"
 - "The Interpretation of Aerial Photographs as an Aid to Geotechnical Investigations"
- Committee member of the Sydney Chapter of the Australian Geomechanics Society (AGS) from 2000 to 2007 with responsibilities for the Sydney Chapter website and co-editor of the biannual newsletter.
- Member of the Australian National Disaster Mitigation Program AGS Landslide Taskforce during 2005 providing recommendations for the development of guidelines on hazard zoning and slope management & maintenance plus a practice note on landslide risk management.
- Member of organising committee for the IAEG Congress 2010, Auckland, N.Z.

PUBLICATIONS

1. Eggers, M.J. and Bell, D.H. 1992; "The Grave Earthflow Complex, South Westland, New Zealand; Proceedings of the Sixth International Symposium on Landslides, Christchurch, NZ, February 1992; Bell (ed.), Balkema.
2. Sullivan, T.D., Duran, A., and Eggers, M.J. 1992; "The use and abuse of oriented core in open pit mine design"; Proceedings of the Third Open Pit Mining Conference, MacKay, September 1992.



MARK J. EGGERS
BSc, MSc (Hons) MAusIMM, MAIG

3. Eggers, M.J. 1994; "Geotechnical studies for Kelian River Diversion project Indonesia"; Proceedings of the First Australia-New Zealand Young Geotechnical Professionals Conference, Sydney, February 1994.
4. Eggers, M.J.; Mostyn, G and Sullivan, T.D. 1999; "Probabilistic Stability Assessment of a High Slope in Variable Strength Rocks"; 8th Australia-New Zealand Conference on Geomechanics Hobart, February 1999.
5. Eggers, M.J. 2001; "Capability and risk approach to assessing geotechnical design issues in hazardous terrain: Splendido Taal Project, Philippines"; Proceedings of the New Zealand Geotechnical Society 2001 Symposium, "Engineering & Development in Hazardous Terrain", August 2001.
6. Eggers, M.J. and Mostyn, G.R. 2005; "Assessment of landslide and displacement wave risks in a flooded open pit void for mine closure studies"; Proceedings of the International Conference on Landslide Risk Management, Vancouver Canada, 31 May – 3 June 2005, A.A. Balkema Publishers.
7. Eggers, M.J. and Casparis, D. 2007; "Pit slope design in Pilbara iron deposits – Deposit A West Angelas, Western Australia". Proceedings of the 2007 International Symposium on Rock Slope Stability in Open Pit Mining and Civil Engineering, Perth, Australia, 12-14 September 2007.

MAJOR MINING PROJECTS

1 of 6

Cape Foulwind Cement, Westport, N.Z	Field exploration studies to assess potential limestone resource.
Woodlawn Mine, N.S.W	Material search and overseeing earthworks for construction of a tailings dam.
Quarry, Bermagui, N.S.W	Resource evaluation for crushed rock aggregate quarry.
Hamersley Iron Pty Ltd, Paraburdoo, W.A	Extensive geotechnical studies for existing open cut mine including field investigations and design.
Hamersley Iron Pty Ltd, Tom Price, W.A	Extensive geotechnical study of a 2.3km long footwall up to 300m high, including field investigations design and monitoring.
Dominion Mining Pty Ltd Cosmo Howley, N.T	Geotechnical studies for final pit design including depressurisation by horizontal drains.
Newcrest Mining Ltd Cadia Project, N.S.W	Geotechnical feasibility studies for a Cadia west deposit.
Hamersley Iron Pty. Ltd., Marandoo Project W.A.	Geotechnical assessment of excavatability and potential mining systems including assessment of geotechnical conditions for above water table pit.
CRA-Mitsubishi Oaklands Project, N.S.W.	Ongoing geotechnical study for proposed major open cut mine and stratigraphic review for groundwater studies.
Dominion Mining Pty. Ltd., Grants, Meekatharra, W.A.	Geotechnical design of a small open cut pit.
Dominion Mining Pty. Ltd., Woolwonga, N.T.	Preliminary geotechnical assessment for small to medium open cut pit.
Boral Resources (NSW) Pty. Ltd., Clarence Sand Quarry, N.S.W.	Resource evaluation using geophysical techniques, tailings management study and slope stability of quarry walls.
Diversified Mineral Resources Ltd, Burton Downs, QLD	Geotechnical feasibility study addressing footwall and highwall stability, groundwater and excavatability.
WMC Engineering Services Pty. Ltd, Nifty Copper Deposit, W.A.	Preliminary geotechnical study addressing pit slope design and depressurisation.
Hamersley Iron Pty. Ltd. Tom Price, W.A.	Investigation and design of Synclines Southwall and SEP Southwall.

MAJOR MINING PROJECTS

2 of 6

Hancock Mining Ltd, Hope Downs, W.A.	Geotechnical pre-feasibility study of the Hope North deposit including slope design and excavatability.
Dominion Mining Ltd Woolwonga Gold Mine, N.T.	Review of slope design parameters.
Hamersley Iron Pty. Ltd. Brockman Detrital Mine	Design of slopes in semi-consolidated gravels and cemented detritals.
PT. Kelian Equatorial Mining Kelian River Diversion	Major geotechnical study for proposed diversion of a river for mining.
Dominion Mining Pty Ltd, Bannockburn, Leonora, W.A.	Assessment of a major wall failure and design of remedial measures.
Geopeko Ltd Lake Cowal Project, N.S.W.	Conceptual geotechnical study for pit slope design in soft materials.
Dominion Mining Pty Ltd Mt Morgans, Laverton, W.A.	Geotechnical studies for a small to medium open cut pit.
Hamersley Iron Pty Ltd Paraburdoo, Channar, W.A.	Slope audit of all major final walls including slope stability and drainage.
Dominion Mining Pty Ltd Bannockburn, Leonora, W.A.	Assessment of geotechnical conditions for underground mining.
Mt Edon Gold Mines, W.A.	Geotechnical logging of exploration core for new deposits.
CRA Ltd Mt Roseby, QLD	Geotechnical feasibility study including slope design and cuttability of continuous mining systems.
North Mining Ltd Lake Cowal Project, N.S.W.	Pre-feasibility geotechnical study for pit slope design in soft oxide, hard oxide and fresh rock.
Hamersley Iron Pty Ltd Tom Price, W.A.	Design and setup a Vulcan geotechnical database.
Macraes Mining Ltd Macraes Flat, N.Z.	Investigation and assessment of pitwall failure and design of remedial measures.
P.T. Kelian Equatorial Mining, Indonesia	Geotechnical studies for final pit design including depressurisation by horizontal drains.
CRA Ltd Wafi Project, P.N.G.	Geotechnical studies for pre-feasibility assessment including pit slope design and underground assessment.

MAJOR MINING PROJECTS

3 of 6

Murchison United N.L. Mt Cuthbert, QLD	Geotechnical pre-feasibility study for a series of small open cut copper pits.
Hamersley Iron Pty. Ltd, Tom Price, W.A.	Investigation and slope design of Southern Ridge 3rd Slice, North Deposit, Section Six and North East Prong deposits.
PT Kelian Equatorial Mining, Kelian River Diversion.	Advice during construction including geotechnical conditions, slope stability and design.
Hamersley Iron Pty. Ltd, Brockman Operations, W.A.	Ongoing geotechnical advice for detrital mining operations and slope design for small open cut in rock.
PT Kelian Equatorial Mining, North Pit Wall	Geotechnical investigation, analysis and slope design for major pit wall in faulted low strength sediments using probabilistic techniques.
Acacia Resources Ltd, Union Reefs Gold Mine, N.T.	Geotechnical analysis and slope design in metasediments with particular emphasis on toppling failure mechanism.
Poseidon Gold Ltd Orlando Gold Mine, N.T.	Pit slope management and ground displacement monitoring for a small open pit mine.
Australian Gold Fields N.L., Wafi, Hidden Valley and Hamata Deposits, P.N.G.	Geotechnical investigations for mine feasibility studies including advice on ongoing geotechnical data collection during exploration drilling at Wafi, review of geotechnical reports for Hamata and commencement of a pre-feasibility study for Hidden Valley.
Hamersley Iron Pty Ltd Channar Operations, W.A.	Geotechnical advice for a 100m high landbridge across a deep gorge to link adjacent mining areas.
Acacia Resources Ltd Brocks Creek Operations, N.T.	Geotechnical investigation and slope design for the Faded Lily, Alligator and Rising Tide open pits with ongoing pit slope management advice.
Newcrest Mining Ltd Cadia Operations, N.S.W.	Ongoing investigation and advice for slope design and management of pit walls.
Porgera Joint Venture, P.N.G. (Placer Pacific)	Geotechnical studies for design of the Stage III and Stage IV pit slopes. This was a major study incorporating 10 months of investigation, analysis and design work for pit slopes 450m high.
Aurora Gold Ltd - Morobe Gold Project, P.N.G.	Pre-feasibility and feasibility level geotechnical assessment for pit slope design at the Hidden Valley deposit.

MAJOR MINING PROJECTS

4 of 6

Cadia Mine, N.S.W.	Engineering geological study of the tailings storage area for environmental and hydrogeological monitoring involving supervision of mapping, geotechnical modelling and assessment of potential leakage paths.
Bowdens Silver Project, N.S.W	Engineering geological study of the proposed tailings storage area for suitability purposes including mapping, modelling and assessment of hydrogeological conditions.
Cadia Mine, N.S.W.	Landslide risk assessment for the concentrate pipeline and access road corridor involving managing field investigations, geotechnical modelling, carrying out a risk assessment along the corridor and designing remedial measures to address the intolerable risk zones.
Hamersley Iron Open Pit Operations, WA	Reviews of the on-site geotechnical programs for pit slope management at Tom Price, Paraburdoo, Channar and Brockman, every six months.
PT Kelian Equatorial Mining, Indonesia	Reviews of the on-site geotechnical work for management of the pit slopes and river diversion slopes during operation of the mine.
Hamersley Iron Pty Ltd, Nammuldi Deposit, W.A.	Desk study of existing geological data for preliminary assessment of slope designs for a series of smaller pits in detrital and bedrock materials.
HI Dampier Operations, WA	Assessment of stability conditions and remedial options for a cutting in rock adjacent to a large stacker.
Macraes Gold Project, N.Z.	Due diligence Technical Audit for Rothchild Australia including review of geotechnical aspects of the pit slope designs and ongoing management of the slopes plus review of surface works such as tailings impoundments and waste rock stacks.
Reefton Gold Project, N.Z.	Due Diligence Technical Audit for Rothchild Australia involving geotechnical review of feasibility pit slope designs and surface works including waste rock stacks, tailings impoundments, silt ponds, process plant and access road.
PT Kelian Equatorial Mining, West Wall	Investigation of stability conditions in the west wall and update of the slope design including design of cable bolt support in localised areas and improvements in the artificial drainage program using variable length horizontal drains.
Hamersley Iron Eastern Ranges Operations, WA	Review of pit slope designs for new mining area between Paraburdoo and Channar.

MAJOR MINING PROJECTS

5 of 6

PT Kelian Equatorial Mining, Mine Closure Studies, Indonesia	Evaluation of long term stability of pit walls post-mine closure under static, seismic and extreme rainfall loading and assessment of risk using Event Tree Analysis.
Donaldson Coal Mine, Gosford NSW	Assessment of ground conditions for rock pillars supporting 132kV power lines, assessment of monitoring results and evaluation of plans for future mining around power pole positions.
Kelian Access & Mine Site Roads, Indonesia.	Engineering geomorphological mapping of access and site roads and assessment of stability conditions and remedial works including retaining wall replacement and upgrading of surface drainage works as part of the mine closure studies.
Grasberg Open Pit, Papua Province of Indonesia	Training of the Open Pit Engineers in pit slope management and compilation of the structural geological model for pit slope design purposes.
Hamersley Iron Marandoo Operations, WA	Order of magnitude investigation of Tertiary sequence for pit slope design for the below water table pit extension and risk assessment for sinkhole and doline formation due to dewatering.
Robe River Iron, West Angelas Operations, WA	Feasibility geotechnical studies for Deposit E and design level studies for the Deposit A operating mine.
Robe River Iron, Bungaroo Deposit, WA	Field investigations, geotechnical modelling, analysis and slope design for the Bungaroo trial pit in pisolite material.
Pilbara Iron, Brockman 4 Deposit, WA	Feasibility level investigations and slope design for proposed new mine.
Pilbara Iron, 4 West Below Water Table, Paraburdoo Operations, WA.	Investigations, geotechnical modelling, analysis and slope design for extension of the 4 West open pit to below the water table.
Penjom Gold Mine, East Kalampong Pit, Malaysia	Review of slope stability conditions of the west wall and recommendations for monitoring, investigation and geotechnical modelling.
PT Kelian Equatorial Mining, Mine Closure Studies, Indonesia	Conceptual level assessment of a pit overtopping wave protection bund around the east wall.
Pilbara Iron, South East Prong, Tom Price Operations, WA	Review of remaining bench slope design and verification of stability conditions of the overall pit walls.
Batu Hijau, Indonesia	Landslide risk assessment for proposed portal location of drainage adit to open pit.

MAJOR MINING PROJECTS

6 of 6

Telfer Gold Mine,
WA

Review of geotechnical model and pit slope design issues for mine closure planning.

Tampakan Copper-Gold
Deposit, Philippines

Geotechnical model and pit slope design for Extended Pre-feasibility study.

Frieda River Gold Deposit,
PNG

Conceptual geotechnical study for pit slope design.

PILBARA MINING PROJECTS

1 of 2

Hamersley Iron Pty Ltd, Paraburdoo, W.A	Extensive geotechnical studies for existing open cut mine including field investigations and design.
Hamersley Iron Pty Ltd, Tom Price, W.A	Extensive geotechnical study of a 2.3km long footwall up to 300m high, including field investigations design and monitoring.
Hamersley Iron Pty. Ltd., Marandoo Project W.A.	Geotechnical assessment of excavatability and potential mining systems including assessment of geotechnical conditions for above water table pit.
Hamersley Iron Pty. Ltd. Tom Price, W.A.	Investigation and design of Synclines Southwall and SEP Southwall.
Hancock Mining Ltd, Hope Downs, W.A.	Geotechnical pre-feasibility study of the Hope North deposit including slope design and excavatability.
Hamersley Iron Pty. Ltd. Brockman Detrital Mine	Design of slopes in semi-consolidated gravels and cemented detritals.
Hamersley Iron Pty Ltd Paraburdoo, Channar, W.A.	Slope audit of all major final walls including slope stability and drainage.
Hamersley Iron Pty Ltd Tom Price, W.A.	Design and setup a Vulcan geotechnical database.
Hamersley Iron Pty. Ltd, Tom Price, W.A.	Investigation and slope design of Southern Ridge 3rd Slice, North Deposit, Section Six and North East Prong deposits.
Hamersley Iron Pty. Ltd, Brockman Operations, W.A.	Ongoing geotechnical advice for detrital mining operations and slope design for small open cut in rock.
Hamersley Iron Pty Ltd Channar Operations, W.A.	Geotechnical advice for a 100m high landbridge across a deep gorge to link adjacent mining areas.
Hamersley Iron Open Pit Operations, WA	Reviews of the on-site geotechnical programs for pit slope management at Tom Price, Paraburdoo, Channar and Brockman, every six months.
Hamersley Iron Pty Ltd, Nammuldi Deposit, W.A.	Desk study of existing geological data for preliminary assessment of slope designs for a series of smaller pits in detrital and bedrock materials.
HI Dampier Operations, WA	Assessment of stability conditions and remedial options for a cutting in rock adjacent to a large stacker.
Hamersley Iron Eastern Ranges Operations, WA	Review of pit slope designs for new mining area between Paraburdoo and Channar.

PILBARA MINING PROJECTS

2 of 2

Hamersley Iron Marandoo Operations, WA	Order of magnitude investigation of Tertiary sequence for pit slope design for the below water table pit extension and risk assessment for sinkhole and doline formation due to dewatering.
Robe River Iron, West Angelas Operations, WA	Feasibility geotechnical studies for Deposit E and design level studies for the Deposit A operating mine.
Robe River Iron, Bungaroo Deposit, WA	Field investigations, geotechnical modelling, analysis and slope design for the Bungaroo trial pit in pisolite material.
Pilbara Iron, Brockman 4 Deposit, WA	Feasibility level investigations and slope design for proposed new mine.
Pilbara Iron, 4 West Below Water Table, Paraburdoo Operations, WA.	Investigations, geotechnical modelling, analysis and slope design for extension of the 4 West open pit to below the water table.
Pilbara Iron, South East Prong, Tom Price Operations, WA	Review of remaining bench slope design and verification of stability conditions of the overall pit walls.
Rio Tinto Iron Ore, Mesa G, WA	Pre-feasibility study for pit slope design at the Mesa G deposit, Panawonica.
Rio Tinto Iron Ore Hope Downs North, WA	Review of geotechnical studies for pit slope design.
Rio Tinto Iron Ore Marandoo BWT, WA	Pre-feasibility study of below water table pit in Tertiary sediments including pit slope design, trafficability and handleability.
Rio Tinto Iron Ore Western Turner Syncline, WA	Pre-feasibility study for pit slope design.
Rio Tinto Iron Ore Nammuldi BWT, WA	Pre-feasibility study for pit slope design trafficability and handleability in Tertiary valley infill sequence.

MAJOR CIVIL PROJECTS

1 of 3

N.Z. Geological Survey & N.Z. Forest Service South Westland, N.Z.	Part of a major evaluation program for nature forests between the Cook and Haast Rivers. Study included regional geological mapping and landform evaluation to assess regional slope stability and detailed engineering geological mapping of specific sites to assess the origin of existing slope instability and to evaluate the impact of potential forest harvesting activities.
N.Z. Geological Survey Christchurch, N.Z.	Compilation of geological resource maps QM360 (Hammer Sheet) and QM379 (Mackensie Sheet) Scale 1:250,000 and accompanying reports for a national computerised data base of known geological resources.
Fyshwick, A.C.T.	Field investigations along road alignment for fill and pavement design and bridge foundations.
Merimbula, N.S.W.	Field investigations for sub division design studies including engineering geological mapping and drilling.
Jerrabomberra, N.S.W.	Engineering geological mapping of foundation conditions exposed in cut-off trench and spillway excavations, for water retaining structure.
Molongo River, A.C.T.	Supervision of field investigation for bridge foundation conditions including over water drilling.
Thredbo, N.S.W.	Engineering geological mapping and subsurface investigations including drilling and test pitting, and geotechnical modelling for design of a major resort development.
Canberra City, A.C.T.	Supervision of field investigations for geotechnical feasibility studies of a large commercial redevelopment proposal in the C.B.D.
Batemans Bay, N.S.W.	Slope stability assessment of a high cut rock wall for a residential development involving mapping and stability analysis.
Nethercote, N.S.W.	Assessment of on-site effluent disposal conditions for a small rural subdivision.
Batemans Bay, N.S.W.	Terrain evaluation and Urban capability assessment for two separate urban subdivisions, including slope stability assessment, erosion and sedimentation protection.

MAJOR CIVIL PROJECTS

2 of 3

Barrandada, VIC	Terrain evaluation and geotechnical assessment for a large proposed rural subdivision, including on-site effluent disposal, slope stability, erosion and sedimentation protection measures.
Merimbula, N.S.W.	Terrain evaluation and urban capability assessment for proposed subdivision, including slope stability assessment.
Wallagoot Lake, N.S.W.	Assessment of on-site effluent disposal conditions for a rural subdivision.
Vincentia, N.S.W.	Terrain evaluation and urban capability assessment for two adjacent proposed residential and commercial subdivisions.
Pambula, N.S.W.	Assessment of on-site effluent disposal conditions for a small rural subdivision.
Jindabyne, N.S.W.	Assessment of on-site effluent disposal conditions for a small rural subdivision.
Bermagui, N.S.W.	Assessment of on-site effluent disposal conditions for a rural subdivision.
Batemans Bay & North Moruya, N.S.W.	Assessment of slope stability and on site effluent disposal conditions for two rural subdivisions.
Kenthurst, N.S.W.	Terrain Evaluation and capability assessment for rural subdivision including slope stability, foundation conditions, road pavements.
Chullora, N.S.W	Field investigations for toxic materials assessment including walk-over survey, sampling and control of laboratory testing programme.
ICI Botany, N.S.W.	Field investigations for soil contamination assessment.
ICI Kurnell, N.S.W.	Field investigations for property conveyance assessment.
Homebush Bay, N.S.W.	Field investigations for a major environmental study at the proposed Olympics site including surface and sub-surface studies.
Erina, N.S.W.	Field investigations for extensions to existing shopping centre.
Observatory Tower, Sydney.	Geotechnical investigation and construction advice for extensions to existing building.

MAJOR CIVIL PROJECTS

3 of 3

Gosford, N.S.W.	Advice on slope stability aspects of redevelopment of an old quarry.
Splendido Taal, Philippines.	Major investigation, assessment and design for proposed residential and resort development within a large volcanic caldera on steep slopes involving mapping, drilling and testing for an urban capability and risk assessment, design of cuttings, roads, buildings and a golf course on a large valley fill, side slope fills and natural ground.
Lidcombe, N.S.W.	Footing inspections in fill and weathered shale for new commercial buildings.
Newport, N.S.W.	Stability assessments for residential blocks.
Dungowan Dam, N.S.W.	Major review of rock slope investigation and design for a spillway upgrade including check mapping, stability analysis and assessment of the proposed upgrade works.
Thredbo, N.S.W.	Part of the PSM team advising the NSW Coroner on the causes of the 1997 landslide at Thredbo including historical studies, field investigations, geotechnical modelling and assessment.
Lower Portland, N.S.W.	Assessment of alluvial versus fill origin of soil materials on the banks of the Hawkesbury River for a legal case involving a residential development.
East Arm Port, Darwin, N.T.	Regional geological assessment and engineering geological mapping of surface bedrock exposures and interpretation of foundation conditions at the new wharf site.
Chatswood to Parramatta Rail Link, N.S.W.	Overseeing site investigations for a section of the proposed rail tunnel and underground stations.
Melbourne City Link, Burnley Tunnel, VIC	A major project for remedial design of the tunnel involving investigation and assessment of invert and sidewall conditions for design of anchors and a large grouting program involving cement and chemical grouts. Management of the grouting program including collation, presentation and assessment of the grout results for comparison with design objectives.
Long Bay Land Development, Auckland, NZ	Peer review of the ground model, slope stability analysis, landform modification and remedial measures for a large land development in Waitemata Group soft rock.

MAJOR CIVIL PROJECTS

3 of 4

Project Sunflower,
NZ

Conceptual geotechnical model for proposed hydro-electric project.

Blackwall Mountain

Remediation recommendations for road cutting along Maitland Bay Drive.