

A Paul MACONOCHIE

Work Address GeoTek Solutions Pty Ltd
Queensland Centre for Advanced Technologies
Technology Court, Pullenvale Qld 4069, Australia
PO Box 883, Kenmore Qld 4069, Australia

Telephone +61 (0)7 3720 1792 (Work)
+61 (0)408 729 760 (Mobile)

Fax +61 (0)7 3720 1792

Email p.maconochie@geoteksolutions.com

WWW www.geoteksolutions.com

QUALIFICATIONS

1984 Master of Engineering Science (UNSW)
1976 Bachelor of Science (UNSW)

PROFESSIONAL REGISTRATIONS

2000 Registered Professional Engineer of Queensland
1988 Chartered Professional Engineer

AFFILIATIONS

1992 Member, Australasian Institute of Mining and Metallurgy
1988 Member, Institution of Engineers, Australia
1977 Member, International Society of Rock Mechanics
1977 Member, International Association of Engineering Geologists
1977 Member, Australian Geomechanics Society

EMPLOYMENT

1999 – Present Director

GeoTek Solutions Pty Ltd, Brisbane

GeoTek Solutions (GTS) provides geotechnical and engineering geology consulting services to mining and civil engineering projects. My core competency of slope stability engineering and my broad experience in Australia, Fiji, Papua New Guinea, the Solomons, the Philippines and Indonesia underpin my participation in multi-disciplinary projects throughout the Pacific rim; review projects and mine slope stability projects.

Projects carried out include:

- Review of geotechnical aspects of mine closure stormwater plan in North Sulawesi, Indonesia
- Slope stability investigation for Lihir open cut gold mine in PNG following a slip. As well as analysing the failure a geological model was formulated that would assist in identifying other potentially high-risk areas.
- Geotechnical evaluation and landform studies for rehabilitation of the Atlas mine site in the Philippines. A multi-disciplinary team carried out an environmental investigation and recommended locally

appropriate solutions and some hard engineering options to begin environmental rehabilitation of one of the world's former giant copper mines.

- Geotechnical investigations for a number of open cut coal mines in the Bowen Basin, Queensland particularly in respect of stability issues for draglines and shovels.
- Geotechnical advice for a due diligence process in regard to possible acquisition of a coal mine.
- Design of slope reinforcement for rock slope in Pullenvale Qld.
- Numerical modelling for a new underground coal mining method.
- A review of the geology and hydrogeology for a proposed deep coal mine in the Hunter Valley, NSW.
- Facilitation of a workshop to identify major research opportunities for sustainable development in the Bowen Basin.
- Technical review of a major highway cutting in Queensland.

1998 – 1999

**Senior Geotechnical Engineer
Cutting Edge Technology Pty Ltd, Queensland Centre for Advanced Technologies, Brisbane**

Carried out geotechnical investigations for highwall auger mining.

Helped assemble, and commission the two largest and most advanced highwall auger machines in the world.

1996 – 1998

**Manager
CSIRO Minesite Rehabilitation Research Program, Queensland Centre for Advanced Technologies, Brisbane**

Managed forty-five scientists and engineers from seven CSIRO divisions to address mine site rehabilitation issues.

1996 – 1998

**Manager Mining Science
CSIRO Division of Exploration and Mining, Queensland Centre for Advanced Technologies, Brisbane**

Responsible for co-ordinating all the mining research within the Division and formulating strategic and business plans for internal and external stakeholders

1995 – 1996

**Acting Manager, Coal Mining
CSIRO Division of Exploration and Mining, Queensland Centre for Advanced Technologies, Brisbane**

Developed marketing and business plans particularly with regard to income targets and deliverables, commissioning and resourcing projects, ensuring customer satisfaction, and monitoring of project progress.

1993 – 1995

**Research Engineer and Group Research Manager
CSIRO Division of Exploration and Mining, Queensland Centre for Advanced Technologies, Brisbane**

Managed the Mining Computing Research Group within the Coal Mining Program.

Led the SiroVision Project to remotely and automatically extract geotechnical information from intact rock faces and piles of broken rock.

- 1992 – 1993 Acting and Registered Mine Manager
Ok Tedi Mining Ltd, Papua New Guinea**
Legally responsible for the safety of the Ok Tedi mine operations.
- 1987 – 1993 Senior Geotechnical Engineer and Geotechnical Superintendent
Ok Tedi Mining Ltd, Papua New Guinea**
- 1976 – 1987 Engineering Geologist/Senior Engineering Geologist
Douglas Partners Geotechnical Consultants, Sydney**
Responsible for all phases of numerous geotechnical investigations that included foundation investigations, stability assessments, pavement designs, seismic refraction studies, petrological classifications and management of field and office laboratories. Projects included:
- Misima Gold Mine, PNG, – investigation for infrastructure.
 - Stanwell Power Station, Queensland – seismic refraction traverses.
 - Design and supervision of piled foundations for office block, Port Moresby, PNG
 - Nadi - Lautoka Regional Water Supply Scheme Dam, Fiji

PUBLICATIONS

Papers

- Cheung, L.C.C., Poniewierski, J., Ward, B., LeBlanc, D., Thurley, M.J. and Maconochie, A.P., 1996, SIROJOINT and SIROFRAG - new techniques for joint mapping and rock fragment size distribution measurement, *FRAGBLAST'5*, Proc. 5th Int. Symp. of Rock Fragmentation by Blasting.
- Douglas, D.J., McMahon, B.K., and Maconochie, A.P., 1987, Slip failure in Ashfield Shale at Artarmon, Sydney. In Walker, B.F. and Fell, R.F., eds., *Soil Slope Instability and Stabilisation*, Proc. Extension Course.
- Poniewierski, J., Cheung, L.C.C. and Maconochie, A.P., 1995, SIROFRAG - A new technique for post-blast rock fragmentation size distribution measurement, Proc. EXPLOR '95, AusIMM Publications Series 6/95, Melbourne.
- Jones, T.R.P. and Maconochie, A.P., 1990, Twenty five million tonnes of ore and ten metres of rain, Proc. Mine Geologists' Conference, AusIMM.
- Maconochie, A.P., 1992, Geotechnical engineering at Ok Tedi - a multidisciplinary approach, Proc. AusIMM Annual Conference.
- Read, J.R.L. and Maconochie, A.P., 1992, The Vancouver Ridge landslide, Ok Tedi Mine, Papua New Guinea. In Landslides, Bell, D.H., ed, Proc. Sixth Int. Symp. on Landslides.
- Smith, R.E.W., Wruck, G., Velasquez, A., Cuff, C., Sahami, A., Maconochie, A.P., Spain, A., Graham, T., Merrett, D., Visco, R. 2002. Environmental Assessment and Rehabilitation Investigation for the Atlas Copper Mine, Philippines. Proc of MCA Environmental Workshop, Newcastle, NSW 2002.

Open Reports

- Duncan-Fama, M., Shen, B. and Maconochie, A.P., 2001. Optimal design and monitoring of layout stability for highwall mining. Report to ACARP for Project C8033 by CSIRO Exploration and Mining and GeoTek Solutions.
- Shen, B., Duncan-Fama, M., Boland, J., Adhikary, D., Maconochie, A.P. and Hill, D., 2000, Monitoring and Stability Assessment of Entries for punch Longwall mining using HWMT. Report to ACARP for Project C9007 by CSIRO Exploration Mining, GeoTek Solutions and Strata Engineering.