



Country of Citizenship: Australia

Educational Qualifications: BAppSc(Hons) Bachelor of Applied Science Geology,
University of New South Wales, 1993

MEngSc Masters of Engineering Science, Geotechnical
Engineering, University of New South Wales, 2002

(GradCert BT) Graduate Certificate in Business &
Technology

Mr. Mark Fowler graduated from the University of New South Wales in 1993 with an honours degree in Geology majoring in engineering geology. In 1994 McMahon Associates Consulting Geotechnical Engineers employed Mr Fowler. In this position Mr. Fowler was involved in geotechnical investigations for pit wall stability, underground mining, dewatering and tailings investigations. In October 1996 Mr. Fowler moved to Golder Associates in Atlanta USA, working primarily on hydraulic fracturing projects and secondly on mine dewatering. Mr Fowler returned to Sydney in August 1997 continuing his employment with Golder, working on geotechnical investigations for slope stability, tunnels, and surface infrastructure projects for both the mining and civil industries. In July 1998 Mr. Fowler joined PSM where he is principally involved in geotechnical studies for mining and civil projects.

FIELDS OF SPECIAL COMPETENCE:

Mr. Fowler specializes in geological and geotechnical studies for open pit mines and large civil projects. Fields of special competence include:

- Engineering geology
- Hydrogeology
- Monitoring and Instrumentation

Engineering geological studies for mining and civil projects specialising in:

- Open pit slope design.
- Engineering geological models and support estimates for hard rock tunnels.
- Site investigation, face support and foundation advice for deep basements.
- Hydrogeological investigations for dewatering and depressurisation.

EXPERIENCE:

July 1998 - Present

Pells Sullivan Meynink Pty Ltd – Associate Engineering Geologist

October 1996 - July 1998

Golder Associates Pty Ltd (Atlanta USA & Sydney) - Engineering Geologist

May 1994 -October 1996

McMahon Associates Consulting Geotechnical Engineers Pty Ltd - Engineering Geologist

MAJOR MINING INVESTIGATIONS

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Lihir Gold Mine	Geotechnical investigations and slope design.
Olympic Dam Expansion Project, SA	Slope design study for a large open pit mine. (Principal Geotechnical Engineering for BHPB).
Prominent Hill, SA	Bankable feasibility study for an open pit gold mine. Geotechnical and groundwater investigations. Slope designs in soft rock cover sequence and hard rock basement.
Batu Hijau, Indonesia	Engineering geological model for in-pit wall drainage tunnel.
Mount Owen	Design of monitoring system for rail line over long wall subsidence zone.
Batu Hijau, Indonesia	Slope design study for large open pit mine including structural geological review, risk of undercutting, limit equilibrium and UDEC analyses.
Waihi Gold Mine, NZ	Hazard investigation and instrumentation of historic underground workings on surface infrastructure.
Tarmoola Gold Mine, WA	Slope design study for large open pit mine including kinematics and rock mass analyses.
Tarmoola Gold Mine, WA	Back analysis and remedial design for slope failure in low strength Talc Chlorite Schist unit.
Kelian Gold Mine, Indonesia	Investigation of integrity of decant pipe through large water storage dam.
Cadia Gold Mine, NSW	Study of major geotechnical structures in North Wall and impacts.
Cadia Quarry, NSW	Geotechnical investigation for slope design – for a proposed open pit mine.
Otter Gold Mine, N.T. Legs Pit	Review of slope monitoring and advice.
Kaltim Prima Coal, Kalimantan, Indonesia Porodisa Pit	Stability and seepage analysis of overburden dumps.
Hidden Valley Mining Development, Papua New Guinea	Bankable Geotechnical Feasibility Study for open pit slope design involving geotechnical investigations, development of geotechnical models, and slope design.
Porgera Gold Mine, Papua New Guinea.	Geotechnical investigations for the expansion of a large open pit mine with regard to slope design. Development of geotechnical models, slope design using stability software and kinematic techniques. Design of depressurisation drains and effect on slope angles.

MAJOR MINING INVESTIGATIONS

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Ridgeway Project, Cadia, NSW	Geotechnical investigation for proposed mine surface infrastructure including: shaft, winder, header frame and reclaim tunnel.
United Collieries, NSW	Stability assessment of existing tailings compound and expansion options.
Sassafras NSW	Geotechnical feasibility study for proposed basalt quarry.
Chambers Kaolin Mine, Macon Georgia USA.	Pit Floor Heave Investigation, resulting in design and installation of dewatering system.
Argyle Diamond Mine, WA	Geotechnical investigations for a Block Cave Mine beneath an existing open pit, including: geotechnical core logging, pit mapping, groundwater investigations, geological data compilation and structural interpretation for design of underground structures.
Argyle Diamond Mine, WA	Investigation of existing tailings wet stack and dam for stability assessment, Argyle, Western Australia.
Argyle Diamond Mine, WA	Investigation, Design and supervision of installation of a De-watering System for Tailings Wetstack. The investigation involved pump and recovery aquifer testing. The design produced a de-watering system with 44 pump wells and 25 observation wells, incorporating; submersible pumps and control systems, flow metres, and data logger and vibrating wire piezometers for monitoring of piezometric levels.
Argyle Diamond Mine, WA	Foundation investigation, materials search, and supervision of earthworks construction for the 1,000,000m ³ north-east tailings dam.
Western Drift and Dartbrook Coal Mine, NSW	Compilation of site geological data preparation of geological long sections.

MAJOR CIVIL PROJECTS

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Wambo Rail Tunnel, NSW	Geological model, support design, construction supervision.
Camp Hill Tunnel, Brisbane	Geological model.
Thiess-John Holland Joint Venture Lane Cove Tunnel Project	Senior geotechnical engineer during construction. Responsible for management of geotechnical team including mapping, monitoring, interpreting ground responses.
EA Cable Tunnel, Sydney	Geological model.
Thiess-Hochtief Joint Venture Epping To Chatswood Rail Line	Senior geotechnical engineer during construction. Responsible management of geotechnical team covering mapping, monitoring, interpreting ground responses.
Brisbane City Council Sewer tunnel Expert advice – Latent Conditions Claim	Compilation of geological model. Estimation of roof support based on tender documents, comparison with actual conditions.
Walter Construction Ultimo Substation	Advice regarding foundation design for tower block in 20m deep basement in sandstone.
Transfield Obayashi Parramatta To Chatswood Rail Link – Tender	Development of geotechnical model and roof support design for a tunnel.
Leighton Contractors Cross City Tunnel Tender	Development of geotechnical model and roof support design for a tunnel.
Energy Australia Cable Tunnel Sydney NSW	Development of geotechnical model and roof support design for a tunnel & shafts.
Transfield Obayashi JV Burnley Tunnel, Melbourne	Geotechnical investigations for failed zone of tunnel.
Cadia Hill Gold Mine Belubula Pipe Line, Orange, NSW	Development of Geotechnical model for excavation conditions for a 120 Km long water supply pipe line.
Leighton Contractors Pty Ltd 383 Kent Street, Sydney	Geotechnical investigation, footing design and verification for high rise building.
Northside Storage Tunnel, Sydney, NSW	Development of geotechnical models of valley crossings for a storage tunnel.
Parramatta Rail Link, Section C, NSW	Geotechnical investigation, development of geotechnical models and advice on tunnelling conditions for Section C of the proposed rail link.

MAJOR CIVIL PROJECTS

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Pacific Highway (Brunswick - Yelgun Section) NSW	Geotechnical logging and compilation of geological model in soils and rock, stability assessment of road cuts for SKM.
M5 Tunnel, Sydney, (Tender) NSW	Geotechnical logging and compilation of geological model for M5 Tunnel tender stage.
Hurstville Landfill, NSW	Contamination and groundwater investigation.
Sydney	Variety of small geological geotechnical and environmental investigations for residential and civil projects.
Sydney NSW & Atlanta USA	Research, development and commercialisation of an innovative technology installing underground vertical and horizontal walls using "azimuth controlled hydrafracture". Major applications include the installation of permeable granular iron walls to remediate ground water contaminated with chlorinated hydrocarbons and installation of high conductivity fractures to increase the efficiency of soil vapour extraction systems.

LEGAL PROJECTS

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Coppabella Coal Mine, QLD	Investigation of conditions of Tertiary and Permian materials for a construction claim.
Kiama Bi-Pass, NSW	Review of geotechnical conditions in a basalt cut for construction claim.
Kelian Gold Mine, Indonesia	Engineering geological investigation of Mt Pagang Quarry for construction claim.
New Southern Railway Cofferdam failure	Review of geotechnical data for legal claim regarding Cofferdam failure.
Thredbo, NSW	Investigation and collation of geotechnical information for the coroner.