

Geoff Byrne

Principal



Geoff Byrne is the Principal Consultant at Niboi Consulting. Geoff has over 40 years' professional experience. He works in the fields of mine closure planning, risk assessment, environmental management, corporate reporting, systems and performance auditing; and strategic advice.

Geoff has been involved in the development and review of closure plans, as well as preparation of closure cost estimates, for mining and mineral processing operations located throughout Australia, in Suriname, Laos, the USA, Indonesia, Ireland, Democratic Republic of Congo, Chile, Canada, Thailand, South Africa, Mozambique, The Netherlands, Belgium, France, Guinea, Vietnam, the Philippines, Angola, Georgia, Tanzania, Spain, Portugal, Sweden, Honduras, the Kyrgyz Republic and Brazil. He has developed risk based approaches to closure planning and the linking of closure risks to redeveloped closure plans and incorporation of risk costing into closure liabilities, financial provisions and asset retirement obligations.

Geoff has also worked on many other projects globally in the mining, metals, manufacturing and resource development sectors. These have included a range of risk assessment, due diligence, merger/acquisition and IPO projects. A large component of these projects has involved the assessment of costs and liabilities using probabilistic techniques.

Professional Affiliations and Registrations

- Member, Institution of Engineers, Australia
- Member, Australasian Institute of Mining and Metallurgy
- Registered Professional Engineer, Queensland
- Chartered Professional Engineer and NER
- Environmental Auditor (Contaminated Land, Industrial Facilities & Natural

Resources) appointed pursuant to Environment Protection Act, 1970 (Vic)

- Approved Environmental Auditor (Contaminated Land) by Queensland Department of Environment and Heritage.

Fields of Competence

- Closure Planning
- Risk Analysis
- Sustainability Strategies.

Education

- Fellowship Diploma (Geology), RMIT, 1974
- Master of Science, University of London, 1980
- Diploma of Imperial College, 1980.

Previous Employment

- Partner & Global Mining Director, *Environmental Resources Management*
- Vice President, *URS Corporation*
- Managing Consultant, *Dames & Moore*
- Director, *Hollingsworth Consultants*
- Senior Engineering Geologist, *McMahon Burgess & Yeates*
- Engineering Geologist, *Geological Survey of Papua New Guinea*
- Engineering Geologist, *Golder Associates.*

Publications

- Byrne G. M., Forth J. and Smyth B. *Portsmouth Landfill, Cairns, Far North Queensland, Australia, HAZPAC '91, Cairns 1991.*
- Byrne G. M. and Scells P. K. *Typical Investigation Procedures for the Evaluation of Contaminated Sites*, presented at "Engineering to Sustain the Environment", Society of Professional Engineers of Papua New Guinea conference, Lae, December 1992.
- Byrne G. M., Dasika R, and Renfrey G. *The Eastern Gas Pipeline: Environment and*

Engineering Studies Techniques, Changing Pipeline Horizons, APIA International Convention, Adelaide, Australia, November 1997.

- Byrne G.M. and Hancock S.J. *Environmental Technology Co-Operation – Global and Local*, presented at World Energy Council Asia Pacific Forum, Tokyo, Japan, October 2000.
- Byrne G.M., Salmon R. and Jones C. *The Public Sustainability Reporting Process*, Enviro 2002, Melbourne, Australia, April 2002.
- Byrne G.M., Glover A., Macdonald C. & Sheehy B., *Social Performance Indicators: A Management Framework for Measuring and Reporting Stakeholder Interaction*, Minerals Council of Australia Sustainable Development Conference, Newcastle, Australia, November 2002.
- Byrne G.M., *Brown Coal- A Sustainable Future - Perceptions & Reality*, presentation to Engineers Australia Regional Infrastructure Solutions Forum, Traralgon, Australia, 2003.
- Reisinger R, Van Zyl D & Byrne G. *Mine Closure Planning in Today's Global Environment: A Risk-Based Approach*, Short Course presented in conjunction with 2008 SME Annual Meeting & Exhibit, Salt Lake City, USA, February, 2008.
- Bingham E, Byrne G & Reisinger R, *Closure Planning under the BHP Billiton Closure Standard*, presented at 2008 SME Annual Meeting & Exhibit, Salt Lake City, February, USA, 2008.
- Byrne G., *A Risk-Based Approach to Closure Planning*, Mine Closure 2011, Lake Louise, Canada, October 2011.
- Byrne G., *How Well are Closure Risks Identified – and Acknowledged?* presented at International Finance Corporation Workshop, Mining Indaba 2013, Cape Town, South Africa, February 2013.
- Byrne G. & Guaraldo L, *What Are The Big Ticket Items In Mine Closure?* Presented at CleanUp 2013, Melbourne, Australia, August 2013.
- Byrne G., *Long Term Water Management – The Forgotten Legacy of Mine Closure*,

Water in Mining 2013, Brisbane, Australia, November 2013.

Key Projects

- Preparation of closure plan and closure cost report for existing coal operation, Mozambique.
- Preparation of closure plan and closure cost report for new copper/zinc mine development, Laos.
- Preparation of closure plan and closure cost report for existing nickel mining and smelting operations, Indonesia.
- Review of closure plans and costs for three coal mines Latrobe Valley, Australia.
- Preparation of closure plans for multiple bauxite mining operations and an alumina refinery in Suriname. This work involved a risk based approach to closure planning according to the corporate standards and guidelines. The work has also included the development of deterministic and probabilistic closure cost estimates for provisioning purposes.
- Financial assessment studies for various mine closures throughout Australia.
- Desk top review of closure cost estimates and preparation of closure plan for gold mine in Senegal.
- Review of closure costs and financial assurance declarations for two coal mines in Queensland.
- Review of closure and progressive rehabilitation risks for operating coal mines, Queensland.
- Desk top review of closure cost estimates and preparation of conceptual closure plan for proposed bauxite mining and alumina refinery development in Guinea.
- Annual evaluation of closure liabilities and risks for major mining company involving review of site generated closure costs and financial assurance calculations for sites in Queensland and Tasmania.
- Desk top assessment of closure costs for diamond mine in Angola.

- Preparation of risk-based closure plan and closure cost estimate for bauxite mining and alumina refinery in Western Australia.
- Preparation of closure cost estimate for diamond mine in Angola.
- Environmental due diligence for the institutional offering of major minerals processing company. This involved the identification, quantification and probabilistic costing of environmental issues for operations in Australia, United States, Belgium, France, The Netherlands, Thailand and China, including closure and site divestment liabilities.
- Preparation of risk-based closure plan and closure cost estimate for coal mining operation in New Mexico, USA.
- Preparation of closure cost estimate for gold mine in Tanzania.
- Preparation of risk based closure plan and closure cost estimate for gold mining operations in Victoria, Australia.
- Desktop review of cost estimates for zinc mining operation, Spain.
- Annual evaluation of closure liabilities and risks for major minerals processing company involving review of probabilistic closure costs and other environmental liabilities for smelters in Australia, United States, Belgium, France, and The Netherlands.
- Desktop review of closure cost estimates for zinc mining operation, Sweden.
- Preparation of closure cost estimates for lead-zinc mines in Tasmania and New South Wales and major zinc smelter in New South Wales.
- Environmental review and preparation of closure cost estimates for gold, lead zinc mine in Victoria.
- Desktop review of cost estimates for multiple of chrome mining operations in South Africa.
- Preparation of closure cost estimates for mineral sands mine and processing operation in Western Australia.
- Preparation of closure cost estimates for manganese mine Northern Territory and manganese smelter in Tasmania.
- Annual reviews of closure costs and financial provisions for multi-national mining company for operations in Australia, Laos, Democratic Republic of Congo and Canada.
- Review of closure risks and development of closure costs, including risk costs, for copper mine in South Africa.
- Environmental due diligence, including review and update of probabilistic closure liabilities for mine sites in Australia, Peru and the United States.
- Preparation of closure plans for aluminium smelters in South Africa and Mozambique.
- Annual reviews of closure costs for mine portfolios in USA and Peru.
- Environmental reviews and preparation of closure cost estimates for industrial minerals operations in Victoria, New South Wales, Queensland, South Australia and Western Australia.
- Periodic reviews of closure costs for aluminium smelters in South Africa and Mozambique.
- Preparation of closure cost estimates for six silver-lead-zinc mines in New South Wales and South Australia.
- Review of closure costs for aluminium smelter in Brazil.
- Desktop review of cost estimates for gold mining operation in Kyrgyz Republic.
- Facilitation of formal closure risk workshop and development of closure risk register for lead zinc mine in Tasmania.
- Development of corporate Closure Standard and associated guidelines for Australian based multi-national mining company.
- Desktop review of cost estimates for zinc mining operation, Portugal.

- Preparation of conceptual closure plan for proposed iron ore mining operation, Western Australia.
- Expert testimony for environmental panels and commissions of inquiry.
- Numerous geotechnical studies for energy, commercial, industrial, residential and mining developments throughout Australia, Papua New Guinea, Indonesia, India, Philippines, Tonga and Myanmar.