



**Globally Minded
Locally Focused**

www.PatersonCooke.com

About Us

Paterson & Cooke was founded as an engineering consultancy in 1991 by Angus Paterson and Robert Cooke specialising in slurry pipeline and mine backfilling consulting services to the South African mining industry.

More than three decades later our expertise has grown to include slurry pipeline systems, tailings and mine waste, mine backfill, mineral processing, mine services, marine pipelines systems, and laboratory services.

Our reputation as global leaders in this industry is directly attributed to the work of our diverse team of world-class engineers and specialists operating out of nine offices across five continents. We currently have offices in Australia, Canada, Chile, South Africa, Spain, Sweden, the United Kingdom, and the USA. Six of these offices have comprehensive laboratory testing facilities - these are in Australia, Canada, Chile, South Africa, the United Kingdom, and the USA.

Group Capabilities

Tailings & Mine Waste

Our holistic solutions balance many competing requirements such as geotechnical stability, geochemical stability, water conservation, social license to operate, people at risk, emissions, risk to operations, and cost. Our process starts with understanding corporate and mine site requirements in conjunction with the client.

Slurry Pipeline Systems

Our expertise includes conventional tailings pipelines, thickened and paste tailings disposal systems, and long-distance ore and concentrate pipelines.

Slurry pipelines safely, reliably, and economically transport ore, concentrate and tailings and are particularly well suited for projects located in mountainous terrain or in regions with limited existing transport infrastructure. Our engineers have experience in all aspects of slurry pipeline system design and operation, ranging from laboratory test work, hydraulic analysis, pipeline routing, and pipeline construction, to the detailed design and engineering of pump, valve, and choke stations.

Mine Backfill

Since 1991, our engineers have solved some of the most complex backfill challenges while testing and designing hydraulic, paste and cemented rock fill (CRF) projects all over the world. We pioneered the development of full flow technology to keep backfill reticulation systems fully pressurised to manage energy and reduce pipeline wear.

Our global backfill group, made up of engineers, operators, technologists and specialists, allows us to coordinate expertise and resources from all our offices to best serve our clients who may be headquartered in one region, and own projects or operations in another part of the world. The team is dedicated to the design, implementation and operation of backfill systems. Our expertise includes mining and process experts, hydraulics and pipe wear specialists, cement chemists and mechanical engineers focused on pipe stress and transient analysis.



Mineral Processing

With declining feed grades, increasingly challenging and problematic ores being processed, and a drive for more sustainable mining practices, the modern process plant needs to adapt. Often this means adopting newer and novel technology or modifying and/or optimising the process flowsheet. From early-stage conceptual studies through to construction, commissioning and training, P&C can provide solutions every step of the way. Our engineering is backed by in-house laboratory testing to assist in ensuring novel process solutions which are cost effective and operationally robust.

Our range of services includes:

- Site audits
- Site feed trials
- Instrumentation and process control
- Process optimisation and upgrades
- Metallurgical test programs
- Operations planning
- Process modelling
- Flowsheet development
- Debottlenecking studies
- Conceptual, basic and detailing engineering
- Commissioning support
- Operator training
- Qualified persons (QP) for technical reports

Mine Services

Paterson & Cooke's mining team provides specialist engineering services in underground geotechnical design, mine dewatering and underground infrastructure, and hydraulic ore hoisting.

Working independently, or in conjunction with other design service providers, we provide unique capabilities in these specialist areas, drawing on operational experience and technology solutions to develop project specific solutions to our client's needs.



Marine Pipeline Systems

P&C has extensive experience in the design of offshore pumping systems using air lift pumps, remotely operated vehicles, pressure exchange systems and conventional centrifugal pumping.

Dredging, sand bypass systems and beach replenishment require a thorough understanding of the material transport requirements and correct equipment selection for the marine environment. The ability to conduct appropriately scaled hydraulic model tests ensures that the full-scale systems are designed based on sound dimensional analysis of measured data.

Laboratory Services

Our testing laboratories at the various offices around the world provide a wide range of testing capabilities, from bench-top test work, pipe loop test facilities, mine backfill optimisation, mineral processing through to large-scale pilot test campaigns.

Our testing capabilities vary from region to region and can include the following:

- Ore dressing studies
- Bulk solids handling
- Comminution and size classification
- Metal extraction and recovery
- Tailings treatment
- Mine backfilling
- Concentrate and tailings pipelines
- Tailings management
- Geotechnical tests
- Geochemical tests



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OUR VISION

To be one of the most respected
independent engineering companies
and sought-after employers
in the mining industry