



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 optimising the process flowsheet.

From early-stage conceptual studies through to construction, commissioning and training, we 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 & detailing engineering
- Commissioning support
- Operator training
- Qualified persons (QP) for technical reports

Group Capabilities

Engineering Services / Qualified Persons (QP) for Technical Reports

We pride ourselves on being at the forefront of mineral processing engineering, offering comprehensive support across every phase of project development. Our dedicated team, comprised of internationally based experts, includes multiple Qualified Persons (QPs) who bring a wealth of knowledge and experience to the table. From the early stages of conceptual and feasibility studies to the intricacies of detailed engineering, we are committed to ensuring that your projects transition smoothly from design through to commissioning and operation.

Our top-tier mineral processing engineering services are designed to provide a bottom-to-top understanding of the industry's complexities. We are committed to delivering solutions that are not only reliable but also adhere strictly to all regulatory requirements. Whether your project is in its initial planning phases, undergoing an evaluation of the base design, or navigating through intricate engineering specifications, our expertise serves as steadfast assurance of quality and precision throughout the entire project lifecycle.

With a keen awareness of the evolving landscape of mineral processing, we bring innovation, efficiency, and a forward-thinking approach to address the unique challenges posed by each project. Our dedication goes beyond meeting expectations; we aim to set new benchmarks in the industry, providing tailored solutions that propel your project toward success. Your partnership with us will ensure a seamless integration of expertise, reliability, and compliance, making us the trusted companion for your mineral processing engineering needs.



Process Modelling / Flowsheet Development

The basis of successful mineral processing lies in effective flowsheet development and process modelling, areas where we excel. We specialise in translating complex geometallurgical systems into optimised, efficient processes. Our team combines the power of cutting-edge software and industry-specific knowledge to craft flowsheets that will maximise operational efficiency and production. Whether it is a greenfield or brownfield project, our process modelling solutions are tailored to meet your specific mineral needs.

Process Optimisation (Debottlenecking Studies) & Site Audits

Process operations often face challenges related to changing orebodies or equipment inefficiencies, creating unforeseen bottlenecks. Periodic reassessments of a plant's performance become necessary to ensure that the most appropriate operating conditions and technologies are being used for current and future mine plans.

Our process optimisation expertise, together with thorough site audits, allows us to identify and rectify these issues, reestablishing control of the circuit baseline. The site audit

process provides a holistic view of the facility, enabling us to implement targeted solutions for process improvement that can make a substantial impact by increasing throughput and minimising operational costs.

Commissioning Support / Operator Training

We also offer comprehensive commissioning support services to ensure a smooth transition from construction to operation. The commissioning phase of mineral processing plants is critical to the success of the plant. Our expert guidance and operator training programs empower your team with the knowledge and skills necessary to run the plant efficiently and safely by working with the operating team through pre-commissioning, wet commissioning, and full commissioning/start-up phases.

Each phase requires different sets of procedures with varying considerations for safe and effective operations. We are able to develop these procedures for various unit operations and ancillary systems and provide hands-on support through each of the commissioning stages.

Once the mineral processing plant is operational, we offer a diverse range of training topics developed by our experts. These training sessions are aimed at enhancing the capabilities of your operation's team, covering aspects that contribute to sustained efficiency and safety. Our training programs are flexible, allowing for on-site delivery and customisation based on the specific needs and dynamics of your operation. This commitment to ongoing education ensures that your team remains well-equipped to handle the challenges of day-to-day plant operations effectively.

Metallurgical Test Programs & Laboratory Services

Precise metallurgical testing is the foundation of any successful mineral processing engineering project. Our metallurgical test programs, conducted in our state-of-the-art laboratory facilities, provide valuable insights into ore characteristics and processing requirements. We develop metallurgical test programs for all phases of development, to be conducted on site or in one of our many international laboratories. Our laboratories provide a wide range of testing capabilities, from understanding comminution characteristics and bench-top extraction and variability testing, through to large-scale pilot test campaigns.

Group Capabilities

- Tailings & Mine Waste
- Long-Distance Pipelines
- Mine Backfill
- Mineral Processing
- Mine Services
- Bulk Water Supply
- Dredging & Marine Pipelines
- Laboratory & Test Work
- Engineering Services

Contact Us

	patersoncooke.com
Australia	perth@patersoncooke.com
Canada	sudbury@patersoncooke.com
Chile	santiago@patersoncooke.com
Portugal	lisbon@patersoncooke.com
South Africa	capetown@patersoncooke.com johannesburg@patersoncooke.com
Spain	madrid@patersoncooke.com
Sweden	stockholm@patersoncooke.com
United Kingdom	cornwall@patersoncooke.com
USA	denver@patersoncooke.com

