

# Tailings Management



ATC Williams\* offers a complete service for the management of tailings and mining residue, from preliminary scoping studies through to mine closure.

We have extensive experience in geotechnical and ground engineering, hydrology, hydrogeology, and rheology as applied to tailings depositional behaviour, water management and water balance.

Our work with tailings has included operations in the recovery of copper, gold, lead/zinc, coal, diamonds, mineral sands, alumina, uranium, nickel and other products.

Over three decades, ATC Williams has undertaken more than 500 tailings/mining related projects for clients throughout Australia and around the world, including Indonesia, Papua New Guinea, Iran, Spain, Ireland, Canada, Chile, Kazakhstan, Dominican Republic and Africa.

We provide independent, strategic advice, working either to a prepared brief or to a scope of work developed in collaboration with our clients. In all cases, we are dedicated to optimising the technical outcomes and project cost, minimizing environmental impact and managing risk.

With the project metallurgical team, we develop a holistic approach best suited to the residue in question, the site and environment. This includes assessing, processing, thickening, pumping and storage.

In our specialist laboratory in Melbourne, we conduct a wide range of tailings tests to classify materials

and determine in-situ properties. These data, supplemented by our database of tailings behaviour gained from nearly 30 years working in the field, enables us to confidently predict tailings behaviour.

ATC Williams undertakes, or can provide valuable input to:

- options studies
- site selection
- preliminary feasibility studies
- bankable feasibility studies
- basic engineering design
- detailed engineering design
- environmental impacts
- risk management
- construction methodology/supervision
- surveillance and audit reports
- closure designs.

ATC Williams has particular expertise in the application of thickened tailings deposition, having pioneered the application of the Central Thickened Discharge method of tailings storage in Australia. This technique can result in significant reduction in construction effort compared to more conventional tailings storage solutions, as well as providing operating benefits.

One significant benefit of thickening derives from reduced water losses. This can affect the viability of a project and with increased “water awareness” is a critical consideration in many projects.