

CAPABILITY STATEMENT



Leveraging Efficiencies in
Sustainable Tailings Dam Design
and Operation

Water Security And Tailings Dam Engineers

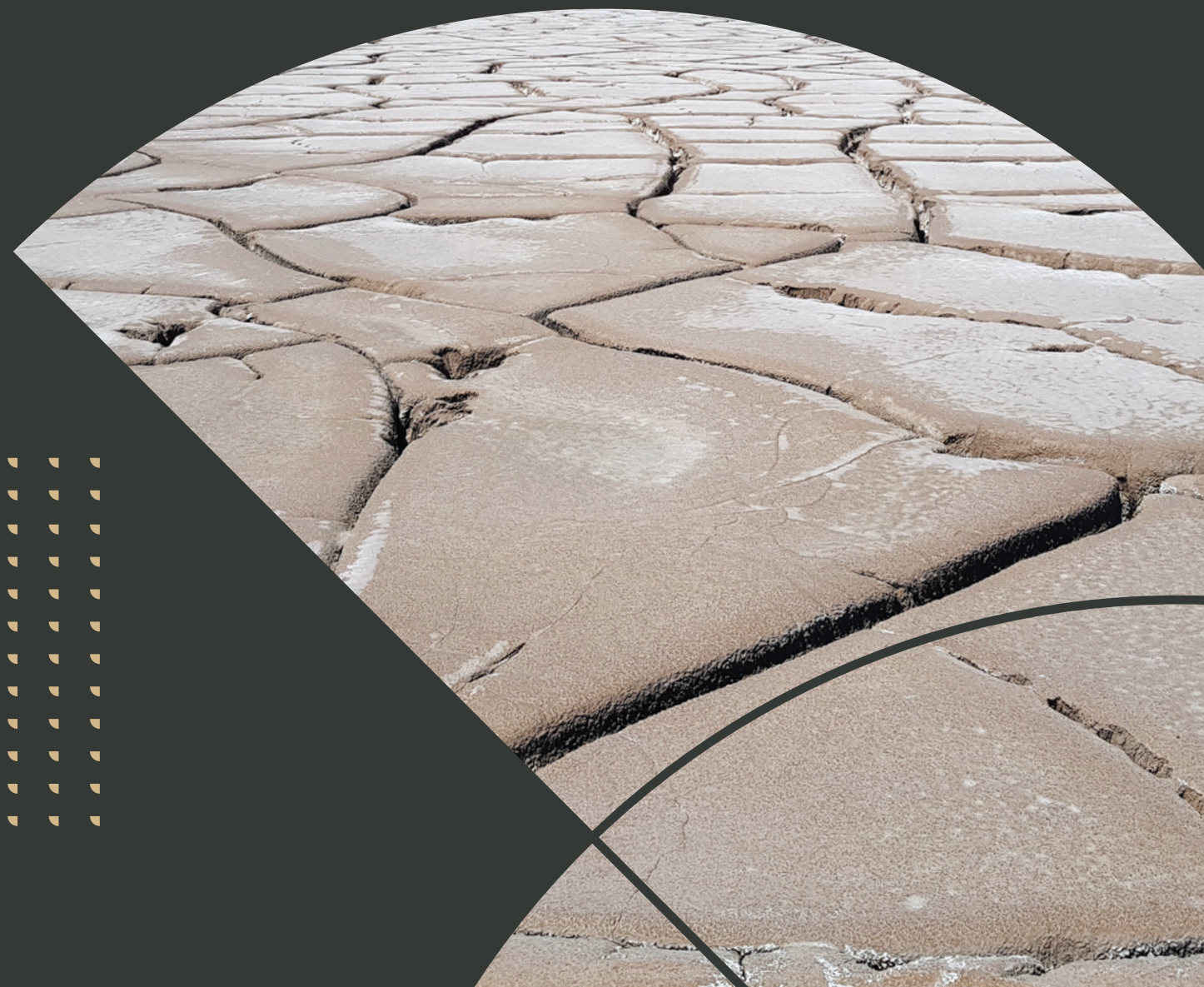
An integrated engineering house, our consulting solutions have optimised tailings impoundments around the world and backed the success of the design, approval and operation of significant assets.

Our expertise solves some of the most important challenges in water security and tailings dam design over the life of a mine. Together, our civil engineering and geotechnical consultants bring scientific and immersive modelling techniques to keep operations running efficiently, while setting the benchmark for safety and governance.

Trusted by world-class mining operations, we leverage efficiencies in sustainable mine development through the integration of cutting-edge technology and sophisticated engineering solutions.

Safety In Design For Mining Operations

At rec, our commitment to quality, safety and technical excellence drives everything we do. With advanced technology and superior engineering expertise, we address crucial issues in water security and tailings dam design to create custom solutions for sustainable mining operations.



Experience That Delivers

TAILINGS DAM AND DESIGN MANAGEMENT

Our scientific and immersive modelling techniques futureproof TSF management and compliance.

We offer comprehensive tailings management solutions that cover every stage of a mine's lifecycle – from design to commissioning, operation and closure.

TSF Design Optimisation

Our unique approach to TSF design optimisation allows us to expedite the optioneering, analysis and modelling process using our in-house expertise and cutting-edge technology.

01

Early Optimisation Works

Our scientific and immersive modelling techniques in water balancing are unparalleled, our holistic and expedited approach to TSF design takes into account all relevant factors critical to feasibility work.

02

Scoping Level Design BFS | PFS

We optimise detailed level design scenarios to gain perspective on metrics that fall beyond the bounds of traditional scoping level design. From here we can rapidly implement design adjustments for various levels of design.

03

Detailed Design Reporting

Streamlining compliance with global experience across multiple jurisdictions, we are able to deliver the required documentation to acquire environmental and design approvals.

Analysis and Reporting

Our detailed reporting on tailings dam performance and safety, including regular updates on monitoring data, risk assessments and design optimisations, helps to ensure transparency and accountability, GITSM compliance and informed decision-making.

TSF Monitoring

Utilising our proprietary tailings management software GDMS, we boost capabilities for TSF monitoring throughout the mine's lifespan. Offering live tailings monitoring within your TSF, real-time water balancing, inflow and outflow monitoring and consideration of various variables can be achieved.

Mine Closure Planning and Design

Working out sustainable approaches to closure once operations are complete is solidified with our proven process, encompassing site rehabilitation and remediation, to ensure a smooth transition once operations are complete.



WATER MANAGEMENT AND SECURITY

We leverage geotechnical attributes to help mining operations solve water security challenges, optimise mine waste management and create efficiencies in water use, design and processing.

With GDMS, we integrate specialist toolkits for tailings, surface water and groundwater modelling, centralising visualisation of your project's water use and reporting.

Hydrogeological and Ground Water Management

Our experienced team brings fresh thinking to the challenges of managing, developing and protecting groundwater resources. We provide expertise in developing water quality management plans, monitoring and reporting on water quality, as well as implementing remediation solutions when necessary.

Surface Water Quality Management

We conduct watershed and drainage studies to assess the impact of land use and other factors on surface water, as well as surface water management system design and construction. Using this insight, we provide design and construction services for surface water management systems, including stormwater management systems.

Environmental Water Monitoring and Compliance

In collaboration with operators and regulators, and uplifted by our immersive software, we monitor and facilitate compliance with global TSF regulations. We strive to build industry experience in the audit and interrogation of tailings dam design, approval, operation and rehabilitation.





CIVIL ENGINEERING CONSULTING

We excel in assessing and managing geotechnical risks, optimising design, and ensuring safe and efficient mining operations.

From planning and feasibility studies to site investigations, design, auditing and construction supervision, our methods are designed to optimise productivity and capital expenditure.

Civil Geotechnical Engineering

We combine civil, geotechnical and hydrological engineering expertise to provide comprehensive design solutions for mining and non-process mine infrastructure.

Construction Supervision and Quality Assurance

We consult with contractors and operators throughout the construction process, supporting delivery to ensure that every aspect of your project meets the most stringent safety, regulatory and performance requirements.



AERIAL SURVEYING AND MAPPING

The sky's the limit when it comes to understanding your topographical conditions for solution design.

Drone Surveys

We capture high-resolution aerial photography, 3D terrain data and topographic models to paint a comprehensive picture of site conditions and topography.

Global Positioning System (GPS) Surveys

We deploy the latest GPS survey technology to provide our clients with precise and reliable survey data for construction, engineering and environmental projects.



Technology

TAILINGS SOFTWARE THAT EMPOWERS THE OPERATOR

GDMS is a 3D modelling technology and SaaS offering from rec designed to empower mine operators with an integrated knowledge base for the effective management of TSFs.

GDMS is the only complete tailings management software which combines data management, design, reporting and compliance in one platform. This powerful software is behind the safe operation of TSFs globally, enabling operators to effectively manage TSF risk from conception to closure.

The software boasts an unmatched 3D environment for modelling and visualisation tethered seamlessly with a live-stream database, allowing the identification of potential issues at the design stage and the implementation of targeted solutions to enhance performance.

Our use of this technology and data management tools enable us to capture and analyse vast amounts of data quickly and accurately, expediting the TSF design process without sacrificing quality.



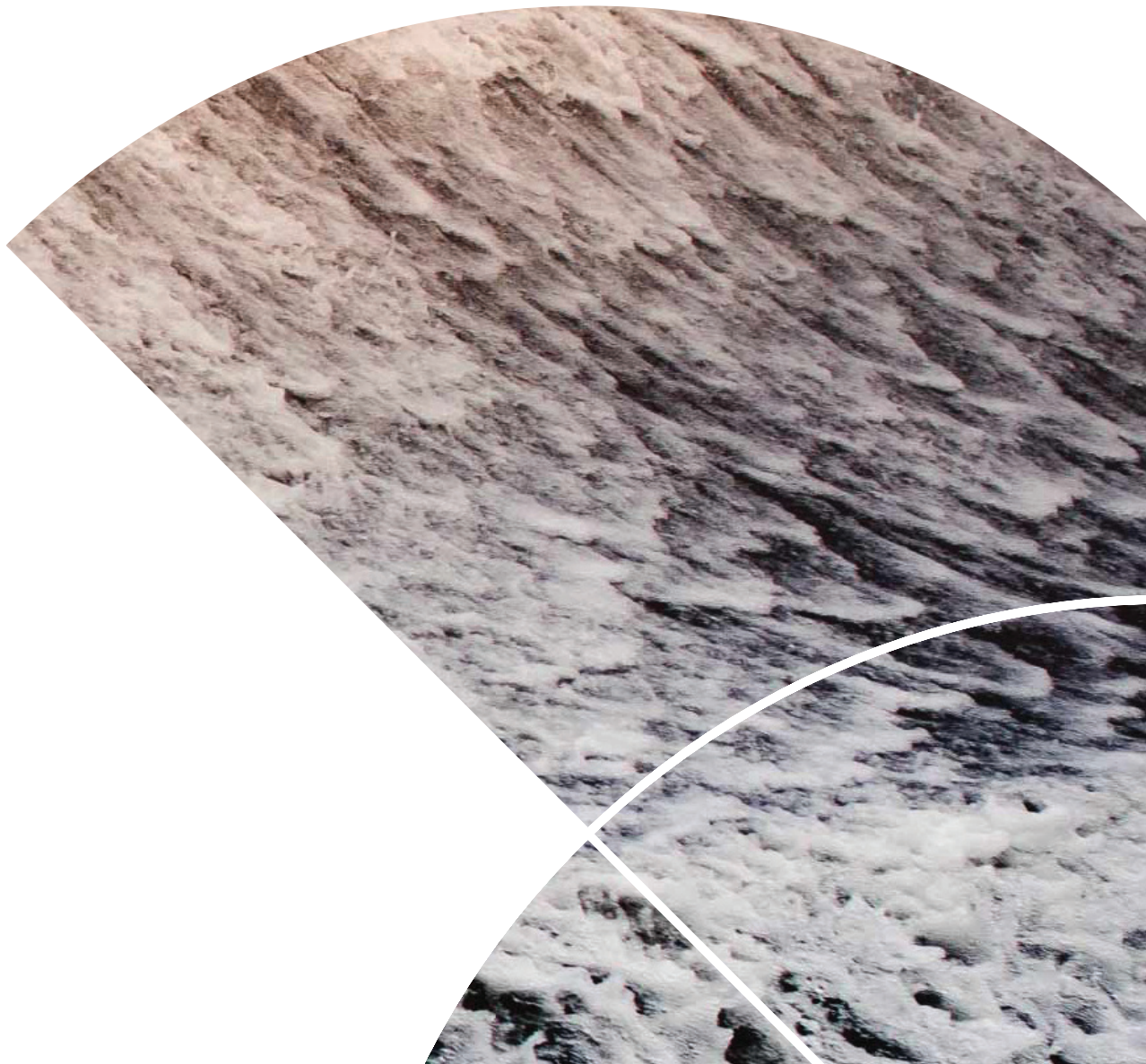
GDMS: STREAMLINING GISTM COMPLIANCE

The GISTM - or Global Industry Standard on Tailings Management - is a framework for tailings management that gives mining companies guidance on how to operate their facilities in a sustainable way, promoting best practice in TSF operation.

The GDMS operator dashboard simplifies conformity with the requirements of GISTM, allowing you to easily monitor, manage and report on your compliance with the international standards with automated reporting capabilities.

The execution of complex tailings deposition, hydrological, hydrogeological and dam break analyses is made possible by the interpretive modelling capabilities of the GDMS platform.

The design specifications and tolerances of a TSF's construction can be verified using the GDMS technology. GDMS puts mine operators in control of a TSF's performance to ensure that it operates within acceptable limits.

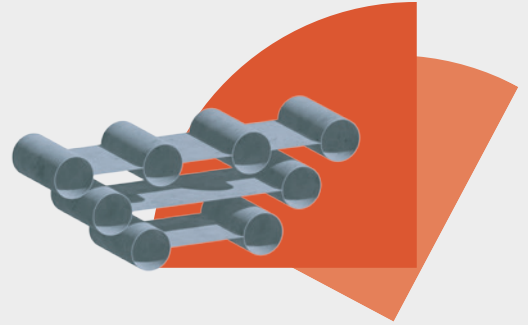


GDMS: TRANSFORMATIVE APPLICATIONS

01

Complete Water Management

GDMS software harnesses specialist toolkits to inspect and manage tailings water, surface water and ground water. Users can also visualise water use as it moves through the mining process and input variables to work in tandem with data provided with autonomous loggers.



02

TSF Monitoring

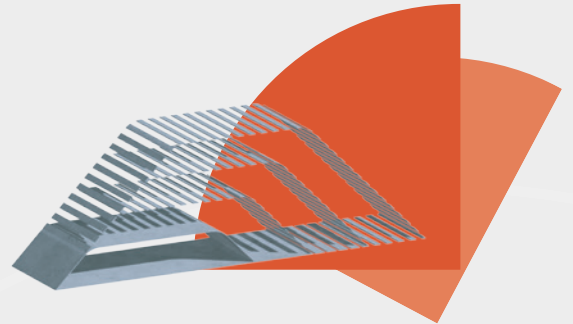
Receive real-time data in a single interface, empowering multi-faceted decisions to be executed with confidence. With the addition of external metric integrations including climate and production data, GDMS enables the continuity of operations and management of risk indicators.



03

TSF Design Optimisation

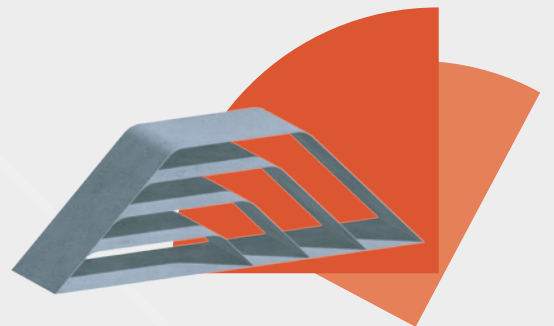
Supporting an integrated approach to mine planning, the dynamic platform hosts a tailings management and field characterisation system that can be virtually manipulated, simplifying adjustments to the site model as new information is obtained.



04

TSF Management and Guidance

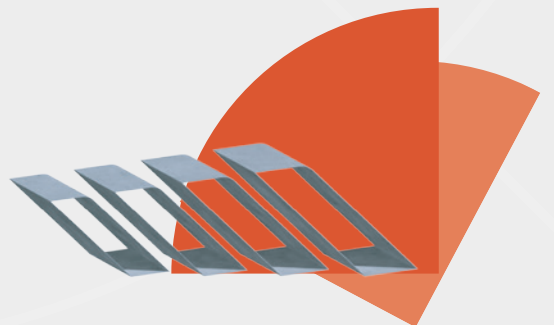
Facilitate continuous operation and manage risk indicators through real-time monitoring of TSF behaviour and metrics. Eliminate the need for multiple telemetry and data management systems, streamlining mine operations within a single centralised platform.



05

Geoscience Data Management

The web-hosted environment creates a centralised and holistic knowledge base for any mine metric, including environmental data. 3D modelling provides visualisation of a TSF and capacity estimates for a range of tailings properties, pond and deposition configurations.



“Previously, mining companies would be required to use multiple software platforms and consultants to cover the full breadth of TSF management and monitoring, which increased costs and opportunity for error.

With our SaaS offering GDMS we have eliminated the need for multiple telemetry and data management systems, streamlining TSF management within a single centralised platform.”

Mitch Hanger
Founder and Director rec



Proudly Trusted by World-Class Operations

With the dynamic nature of the mining industry, we keep your pace and have successfully delivered tailings design and management solutions across the globe.



Experienced in a wide range of ore types:

- lithium
- iron-ore
- rare earths
- vanadium
- gold
- silver
- coal
- uranium
- potash
- copper
- manganese
- cobalt
- bauxite
- mineral sands
- nickel



Experience rec

We stand together with operators and regulators to bring shared understanding and better outcomes that ultimately have an enduring impact on our connection with earth.

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