



Get the Grit - Issue 3

Practical Thinking. Proactive Risk Management. Stronger Project Outcomes.

It's been another busy period for Spectrum Consultants, with our team continuing to grow, and support mining, dam management and infrastructure projects across Australia.

One thing we see time and again in the field is the value of **understanding and managing risk early**. Whether it's identifying ground conditions before construction, monitoring the performance of a tailings storage facility or establishing strong governance frameworks, a proactive approach can make a significant difference to project outcomes.

This thinking underpins much of what we do at Spectrum, bringing together technical expertise, practical field experience and informed decision-making to help our clients navigate complex challenges with confidence.

In this edition of *Get the Grit*, we're sharing more of the work happening across our projects, exploring the importance of proactive dam safety risk management and highlighting our Construction and Operations & Monitoring capabilities. We're also pleased to introduce three new members of the Spectrum team, further strengthening our expertise across geology, instrumentation and field delivery.

As always, we appreciate connecting, and thank you for reading.

Rohan Gleeson
Managing Director & Principal



Featured Project

From review to readiness: De-risking a new TSF before construction

Spectrum is working with a major mining company to optimise the design and construction of a new tailings storage facility (TSF). Our role covers subject-matter expertise and project management for the TSF construction, with a clear focus on identifying and managing risk before construction starts.

The engagement began with a third-party review of the TSF design, tailored to identify risks and opportunities in both the design and the construction methodology. The review found several challenges. Design geometries and specifications restricted construction, data gaps and assumptions carried risk into the design and construction approach, and the construction methodology was still at an early stage. The technical specification was also broad, which made accurate planning and estimating difficult.

Spectrum communicated these risks to the business, making sure decision-makers were briefed on the potential impacts. We developed strategies to mitigate the risks and close out assumptions during design, recommended targeted investigations to fill key data gaps, and kept the risk register under continuous review. Throughout, Spectrum provided clear subject-matter leadership and accountability, driving the improvement process alongside the client's team.

The project is now in a much stronger position heading into construction. Optimised design deliverables are being issued progressively to enable construction, and the construction methodology is achievable, resourced and aligned with the technical specification. Strong quality control and project governance are in place, and the business has a clear understanding of its risk. When ranged using Monte Carlo simulation, the cost estimate and schedule sit within project guidance.

Identifying risk early gave the client the time and information to act on it, rather than discovering it on site.



From the Field | Industry Insight

From Risk Identification to Action: A Proactive Approach to Dam Safety

Effective dam safety management goes beyond identifying potential risks. It requires understanding how those risks can evolve and ensuring the right controls, monitoring systems and response procedures are in place.

Across the mining industry, risk-based surveillance, critical control management and clear accountability remain important priorities throughout the lifecycle of tailings storage facilities.

Industry frameworks such as the Global Industry Standard on Tailings Management (GISTM) reinforce the importance of connecting risk assessments, monitoring programs and operational decision-making.

Central to this approach is understanding potential failure modes and designing monitoring systems that can detect relevant changes in facility performance. But collecting reliable data is only part of the equation. That information must also be interpreted, communicated and acted upon.

Trigger Action Response Plans (TARPs) play an important role by establishing defined trigger levels, responsibilities and actions when monitoring results or observed conditions indicate a change in performance.

Regular reviews are equally important. As facilities progress through construction, operation and closure, risk assessments and monitoring strategies need to evolve alongside changing conditions.

At Spectrum Consultants, we recognise the value of combining technical expertise, boots-on-ground knowledge and strong governance to help clients make informed decisions and actively manage risk across the asset lifecycle.

The takeaway: Identifying risk is only the beginning. Effective dam safety management depends on translating that understanding into practical controls, clear responsibilities and timely action.

Spectrum Consultants' Technical Tip

Managing risk before it becomes an issue.

"Dam safety isn't just about identifying risks. It's about recognising when conditions change, understanding what the data is telling you and having clear actions in place before those risks escalate."



Services Spotlight

Following our introduction to Management & Governance and Design in Issue Two, we're continuing our closer look at Spectrum Consultants' integrated service offering.

This edition highlights **Construction** and **Operations & Monitoring**, two closely connected areas that support safe project delivery and long-term infrastructure performance.

Construction

Practical, on-site expertise that supports quality outcomes

Successful construction requires more than a sound design. It depends on effective coordination, quality assurance and a practical understanding of how engineering requirements translate into on-site activities.

Spectrum Consultants provides hands-on technical and project delivery support throughout the construction of mining, dam and infrastructure projects.

Our multidisciplinary team works alongside owners, contractors and technical specialists, supporting material quality control, geotechnical compliance, instrumentation installation and construction activities aligned with design intent.

With extensive field-based experience, we understand the importance of identifying potential issues early, maintaining clear communication and responding effectively to changing site conditions.

For tailings storage facility construction, this means ensuring technical requirements, quality assurance processes and project responsibilities are understood and implemented throughout delivery.

By combining technical oversight with boots-on-ground support, Spectrum helps clients manage construction challenges, reduce uncertainty and deliver infrastructure designed for reliable, long-term performance.

[Explore our Construction services](#)

Operations & Monitoring

Reliable information for confident asset management

The performance of critical infrastructure must continue to be assessed long after construction is complete.

Ongoing surveillance and monitoring are essential for understanding asset behaviour, evaluating performance and identifying conditions that may require further investigation or action.

Spectrum Consultants delivers field-based and technical monitoring services across tailings storage facilities, dams and mining infrastructure.

Our capabilities include instrumentation installation and maintenance, field surveys, monitoring programs, data collection and technical assessment. Through these services, we help clients build a clearer understanding of asset performance and maintain the information needed to support safe, informed operations.

Effective monitoring also requires a practical understanding of site conditions and the operational context behind the data. By combining hands-on field experience with multidisciplinary technical expertise, Spectrum supports monitoring programs that are fit for purpose, reliable and aligned with each facility's requirements.

Our focus is on providing meaningful information that supports sound decision-making, risk management and long-term asset performance.

[Explore our Operations & Monitoring services](#)



The Latest From Spectrum

Connecting with Industry at the 2026 ANCOLD Tailings Dam Operators Forum

Spectrum Consultants attended the 2026 ANCOLD Tailings Dam Operators Forum, held from 1–3 September in Devonport, Tasmania.

The forum brought together professionals involved in dam engineering, tailings management and operations to exchange knowledge, explore industry challenges and discuss approaches to improving facility safety and performance.

For Spectrum, events like these provide valuable opportunities to connect with industry peers, share practical experiences and stay informed about developments in tailings management and governance.

With our team supporting clients across tailings facility design, construction, monitoring and management, maintaining strong industry connections is an important part of our commitment to continuous learning and technical excellence.

Read more: [Spectrum Consultants Attends 2026 ANCOLD Tailings Dam Operators Forum](#)

Upcoming Industry Event Attendance

What's Next: ANCOLD 2026 Conference

Spectrum is also looking forward to attending the ANCOLD 2026 Conference, from 26 - 28 October in Hobart, Tasmania.

If you're attending, we'd love to connect and continue the conversation around safe, practical and sustainable dam management.

[Contact the Spectrum team](#)

Employee Spotlight

Continuing to Build Our Capability

As Spectrum Consultants continues to grow, so does our team of specialists supporting projects across mining, dam management and infrastructure.

In Get The Grit - Issue Two we introduced, Matthew Paul and Ezekiel Traczyk, and we are also now please to have welcomed Matthew Cullen. Matt, Ezekiel and Matt bring valuable experience and technical expertise that further strengthens our multidisciplinary capability.

Matthew Paul – Senior Consultant, Geology

Matthew joins Spectrum with more than 10 years of mineral exploration experience across senior, project and consulting geology roles.

His expertise includes mineralogy, geochemical analysis, drilling programs, exploration approvals and contractor management.

With a strong background in ground investigation project management, Matthew is currently supporting geotechnical drilling and investigation programs at Newmont's Cadia operations.

Ezekiel Traczyk – Instrumentation Technician

Ezekiel is a qualified electrician with experience in the mining sector, bringing practical expertise to Spectrum's field delivery team.

As an Instrumentation Technician, he supports the installation, maintenance and relocation of monitoring equipment.

Working with the team at Cadia, Ezekiel contributes to the reliable operation of tailings monitoring systems and the delivery of practical, field-based solutions.

Matthew Cullen – Senior Project Engineer

Matthew is a certified Senior Project Engineer, with over 18 years of experience delivering complex, high-value projects across the mining, civil infrastructure and renewable energy sectors in Australia and internationally.

He specialises in project management, tailings dam infrastructure, design coordination, risk management and construction delivery. His experience spans greenfield mine developments, pumped hydro, wind farms, tunnelling and multidisciplinary engineering projects, with expertise in managing projects from initial planning and design through to commissioning and handover.

Together, Matthew, Ezekiel and Matthew bring additional capability across geology, instrumentation and field delivery, supporting Spectrum's integrated approach to complex mining and infrastructure projects.

We're pleased to have them on board and look forward to their continued contributions.

[Meet the team](#)

Join our Team

We're continuing to build a team of people who are passionate about practical problem-solving, technical excellence and delivering meaningful outcomes for

clients.

If you're interested in working across diverse projects with a multidisciplinary, hands-on team, we'd love to hear from you.

[Why Join Spectrum - Spectrum Consultants](#)
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