

Gladstone Aluminium: Inside Operations

Celebrating people, progress and partnership
across Boyne, QAL and Yarwun

Welcome to *Inside Operations*, where we share what's happening across Boyne Smelters, Queensland Alumina Limited and Yarwun refinery.

From our Site General Managers



Trent: At QAL, our primary focus remains executing our two core objectives – safely and responsibly hitting our production plan, month-in-month-out, at the right cost and quality, and implementing Double Digestion. Supporting the first objective, I'm especially pleased to see the return of our Work Experience program and our continued partnership with CQUniversity, because strong local pathways into our operations matter. I'm also excited to see our 2027 apprentice intake opening across all three Gladstone aluminium operations, creating more opportunities for local talent to build long-term careers with us.



Shona: Boyne has been part of Gladstone for more than 40 years, so it was a proud moment to announce a partnership with the Queensland and Commonwealth

Governments earlier this year supporting the transition to long-term competitive power for the smelter and our future to 2040. The joint investment backs the future of aluminium smelting in Queensland and builds on power purchase agreements signed by Rio Tinto which underpin the development of \$7.5B of new renewable energy and storage into the state. The partnership gives us greater certainty, which matters for our people, our operations and the wider community.



Shane: At Yarwun, our focus remains on safe and stable production as we support our people through a period of change – and in some cases redeployment – heading into our planned reduced alumina production from October 2026. I continue to be inspired by the care, resilience and collaboration our teams continue to show, while making steady progress on important work like residue management.

We hope you enjoy this edition.

Stay safe,

Shona, Trent and Shane.



Inside community

Building local pathways through CQUniversity partnership.

We know the future of our industry depends on people. Especially local people with the skills, ideas and drive to help our region keep growing.

That is why June marked an exciting step forward for Rio Tinto, with the signing of a new Memorandum of Understanding between our three Gladstone aluminium operations and CQUniversity.

The agreement builds on a long-running relationship between industry and education in Central Queensland. More importantly, it helps create practical pathways for students to move from study into meaningful careers, right here at home.

Across Yarwun, Boyne and QAL, we are proud to work alongside CQUniversity to support local capability, hands-on learning and stronger career opportunities for young people in the Gladstone region.

For students, that means more chances to get real-world experience while they study. Through opportunities such as engineering cadetships at QAL, students can spend time in our operations, work alongside experienced teams and see what a career in the aluminium industry can really look like.

For QAL Mechanical Engineering Cadet and CQUniversity student Riley Barton, the benefits are already clear.

“My cadetship isn’t just about studying – I’m part of the team, doing real work and building real experience from day one.”

For the Gladstone community, it means more opportunities for young people to develop skills locally, gain industry experience, and build their futures close to home.

We are proud to be part of that future.

Image caption: Gladstone Aluminium and CQU representatives at MOU signing event.

Community garden set to grow

A volunteer-run community garden in central Gladstone is set to become safer, more practical and more welcoming, thanks to support from Rio Tinto Gladstone’s Community Giving Program.

The Queensland Country Women’s Association (QCWA) Gladstone Community Garden received \$2,500 in Round 1 of the program to support improvements at the Oaka Lane site.

Run by local volunteers, the garden grows flowers, herbs, fruit and vegetables that are shared with the community. It also creates space for workshops, gatherings and social gardening, helping people build connections while learning more about sustainable food growing.

Funding will go towards practical upgrades including new shelving, workbenches, storage, hoses, maintenance equipment and seating.

QCWA Secretary and Community Garden Co-ordinator Kirrilee Claridge said the support would help volunteers deliver long-planned improvements.

“Many of our tools and pieces of furniture have been generously donated over the years, but they now need replacing so the garden can stay safe, organised and welcoming. Better storage, reliable equipment and more seating will make a real difference for volunteers and visitors alike,” Kirrilee said.

Rio Tinto Gladstone Manager Communities and Social Performance Duane Fewquandie said community gardens create more than shared green space.

“They create places where people can learn, volunteer and connect. We’re proud to support practical local projects that help make the Gladstone region more inclusive, connected and sustainable,” Duane said.

Round 2 of Rio Tinto Gladstone’s 2026 Community Giving Program opens in August. Community groups interested in applying can visit Rio Tinto’s Gladstone webpage for details or contact the team at OneGladstone@riotinto.com.

Rio Tinto | Yarwun Refinery
Gladstone Aluminium | Boyne Smelters Limited
Queensland Alumina Limited

Apprentice intakes now open

Play a role in supporting Queensland’s aluminium supply chain, right here at our Gladstone operations in a structured and supported learning environment.

Learn a trade under the guidance of our site-based trades training teams, who are knowledgeable and passionate about helping you shape your career. You’ll gain nationally-recognised credentials while working alongside some of the brightest minds in the industry.

2027 intake

Yarwun refinery and Boyne Smelters:
Apply before 12 July 2026



QAL:
Apply before 19 July 2026



Scan the codes to apply.



I’ve found that wherever I am on site, people are always willing to take the time to explain how things work, share what they’ve learned, and show me something new.

– Chelsea, Electrical & Instrumentation Apprentice, Yarwun refinery



Ask us anything:

If you have a question about this or any other aspect of our business, get in touch. We may not have all the answers, but we’ll do our best.

Contact us:

Phone: 1800 226 258 (Yarwun)

Email: OneGladstone@riotinto.com

Visit: www.riotinto.com

Follow: Rio Tinto Gladstone | Facebook

Inside industry

Did you know that Australia produces about a quarter of the world's bauxite, around 11% of global alumina, and about 2% of the world's aluminium?

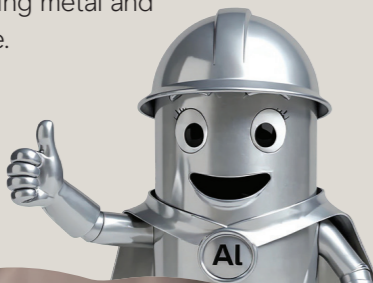
Are you interested in learning more?

The Australian Aluminium Council (AAC) is the peak industry association representing Australia's aluminium sector from mine to market. It helps tell the industry's story and shares updates on policy, sustainability, recycling and the role aluminium plays in everyday life.

The AAC's quarterly *[Al]uminate* newsletter shares updates on advocacy, policy, technical work and broader industry progress. To subscribe, email info@aluminium.org.au.

Scan to meet Allie

Allie is the face of Australia's aluminium industry. From mobile phones to solar panels, aluminium powers our world. Allie's here to help you learn more about this amazing metal and its role in everyday life.



Commit to safety at home

On site, we build habits around noticing risks, managing them, and looking out for each other. These same habits can shape how we think about safety at home, too.

It's easy to overlook the small things — a loose paver, a wet step, clutter in the garage — but these are often where injuries start. Taking a moment to scan your surroundings before weekend jobs can make a real difference. And just like on site, wearing the right gear matters. Eye protection while using rotating tools like whipper snippers and closed-in footwear while gardening or mowing helps protect you — thongs and power tools don't mix.

When you're on stairs, a ladder or out exploring somewhere new, slowing down and keeping three points of contact can help you stay in control. It's often the quick, rushed moments where slips, trips and falls happen.

Fuels or household cleaners deserve the same level of awareness we give to site chemicals. Storing them safely, not mixing products, and washing up well helps stop residues being carried through to your car, home or family.

The habits we build — at work and at home — shape how we look after ourselves and those around us. Getting this right might seem small in the moment, but it's what helps us stay safe at home, come back to work ready, and keep showing up for the people and moments that matter most.



Inside Yarwun

Red mud matters at Yarwun

Teams at Yarwun are finding better ways to manage tailings, known as red mud, dams.

The teams are fine-tuning established processes as well as introducing new technology, like the recently commissioned centrifuge.

Inside Operations spoke with Stuart Smith from Yarwun's Residue Management Area (RMA) team about what his job involves, and why it matters.

What are tailings dams?

"If you fly into Gladstone, you can see the red mud dams from the air," explains Stuart.

"The red mud gets its colour from bauxite and is residue from the alumina refining process.

With our current production plan, the RMA at Yarwun will reach capacity in 2035. To extend the life of the dam we need to find ways to increase its capacity."

How do you increase the capacity?

In short, we want to control how the material behaves on the dam.

The aim is to improve density and consistency of the mud — while keeping it workable or wet enough to move around. We do this in a number of ways — using mud farming techniques as well as our new centrifuge.

The more water we can get out of the mud, the better the mud foundation and less water in the facility — which gives us greater storage capacity.

What is a centrifuge and what does it do?

Seawater is added to the mud as it enters the pipeline, helping neutralise the material.

The mud is then mixed with flocculent to help settle out the mud particles.

Once it comes out of the pipeline, a portion of the mud is piped through the centrifuge, where liquid is removed to increase density — making it thicker and easier to manage before it's placed on the dam.

We're building on what we've learned about the centrifuge during earlier trials. The approach has been steady — testing, learning, and adjusting as we go.

What else is changing?

Teams are also improving mud farming — which is being more strategic about the way residue is placed and managed, so it has time to dry more evenly and form a stronger surface.

This improves the foundation, reduces the amount of water stored on the facility, and allows the available space to be used more efficiently.

How will we know if it works?

"I'd be the first to say we don't have all the answers, but we have a good team and we're working hard to extend the dam's life.

"The work we're doing is about making the most of available space — which plays a big role in how long the refinery can operate.

"By improving how residue is managed and building on practices like wall raising, I'm proud to see our team supporting safe operations and helping to extend the life of the dam."



Inside QAL

Powering Precipitation Performance

At QAL, operational excellence regularly comes down to the ingenuity and persistence of our people – and often, the simplest solutions deliver the biggest impact.

Across precipitation, teams are using the power of air to bring critical 30-metre tanks back into service faster, helping lift performance where it matters.

Precipitation is the second-last stage in alumina refining. It's where seed particles are added in large, agitated tanks, allowing dissolved alumina to attach and form solid aluminium hydroxide crystals.

These tanks rely on constant agitation to keep solids suspended. When agitation is lost, solids quickly settle, and tanks can become "bogged" with hydrate – taking them offline and impacting production.

"We require a certain number of precipitation tanks online to get the most out of what we're putting in," said Ben Castles, QAL Precipitation Tank Recovery Lead.

"As tanks become overdue for cleaning, they lose the ability to agitate and fill with hydrate (solids).

The team worked together and utilised a tried and tested solution: by lowering a 'super sparge' into the tank, we can aerate the solids, allowing the tank to be pumped empty and then proceed through its regular cleaning cycle."

Earlier this year, the team set a target to increase tanks online from 85 to 94 and reached that milestone in May through strong routines and innovative recovery methods.

QAL GM, Trent Scherer, said the results reflect the way operations, technical, maintenance and contracting teams are working together and congratulated everyone involved in the process.

"It's a credit to all of the teams involved – the discipline, the consistency, and the way people are stepping up to solve problems and remove our long-term bottlenecks."

"This level of collaboration is what keeps us competitive and ensures we continue delivering value for generations to come," said Trent.

Opening doors through work experience

At QAL, investing in the next generation is part of how we build for the future.

For the first time in over a decade, we've brought back our Work Experience program, partnering with Deploy Workforce Solutions to give students an understanding of life on site through a five-day placement.

The program connects Year 11 and 12 students with our teams, placing them alongside QAL leaders to work on real tasks and projects. It's about building practical skills, confidence and an understanding of how our refinery operates.

Across 2026, we'll support around 70 students through structured placements, with opportunities across more than 20 different roles.

It's a simple idea, but an important one – giving young people a clearer view of industry and future career pathways while building experience in real operating environments.

2026 upcoming program dates

- Block 5: 12 – 24 Sept
- Block 6: 28 Sept – 1 Oct
- Block 7: 30 Nov – 4 Dec
- Block 8: 7 – 11 Dec



Keen to apply?

Speak to your school's Career Guidance Officer to apply for Work Experience with QAL.



Inside Boyne Smelters

Line 1 West

Twenty aluminium-producing cells on Reduction Line 1 at Boyne Smelters are being re-energised in a staged approach over the coming weeks.

Offline since 2017, maintenance and refurbishing works have been underway for six months, to prepare for the re-energisation. These have involved refurbishment of an emissions treatment centre, construction of new cell linings, fan motor replacements, and more to ensure the area is safe to return to service.

General Manager, Shona Markham, said this is a significant milestone for the smelter and returning these cells to production has been supported by favourable market conditions.

It is an example of Boyne Smelters operating more flexibly and actively adjusting production in response to energy and aluminium market conditions to capture value.

"There's no handbook for a project like this, so our operations and technical teams have been collaborating closely and finding solutions in real time to move this project forward each step of the way."

"We're committed to continuing our role in Queensland's aluminium supply chain."



Production fact:

Energising the 20 cells will increase the smelter's annual aluminium output by

2.5% compared to 2025 production.



Check out this video of Ben in action:



Share your feedback

What did you think of this edition of *Inside Operations*? Share your feedback in our short survey and go into the draw to win a **\$500 voucher** to spend at a Gladstone business.



Scan the QR code to complete our short reader survey.





Inside projects

Supporting the circularity of aluminium

Finding ways to reuse and recycle is becoming a bigger part of how we create value, reduce waste and support the energy transition – and Boyne Smelters is helping bring that to life in Gladstone.

Aluminium can be recycled again and again without losing its quality, and recycling aluminium uses around 95% less energy than producing new metal. That makes it one of the most valuable materials in a lower-carbon, more circular economy.

At Boyne, a recycling project with Capral and Sims Metal is turning clean aluminium offcuts from Capral's Bremer Park extrusion plant into new billet in Gladstone, ready to be supplied back into Australian manufacturing.

The project began with a successful 2024 trial using 50 to 100 tonnes of post-production scrap to make billet with at least 20% recycled content. It has since grown into a broader Queensland collaboration.

In 2025, BSL remelted 332 tonnes of extrusion scrap and produced 1,204 tonnes of recycled billet product. The target is 2,000 tonnes in 2026, with the potential to grow to 8,000 tonnes from 2027.

What makes the project significant is the loop itself – Queensland manufacturing scrap is returned through the supply chain and made useful again for Australian customers.

It also adds another dimension to Gladstone's aluminium story. Across QAL, Yarwun and Boyne, Rio Tinto's Gladstone operations are part of an integrated supply chain that turns Australian bauxite into alumina and then aluminium. Recycling gives that aluminium another life, helping keep more value in Australia and supporting local manufacturing.

For the BSL team, it's a practical project that makes sense. Aluminium can be recycled again and again, and Boyne already has the people, plant and know-how to safely remelt clean scrap and turn it into high-quality billet.

"People often think about recycling as something that happens at home, but industry has a big role to play too. For us, this is about taking a clean aluminium offcut and giving it another life as a high-quality product made right here in Gladstone," said Shona Markham, General Manager, Boyne Smelters.



Production Facts:

A single billet can weigh up to

1.8 tonnes and contains at least 20% recycled aluminium.

Aluminium recycling uses around

95% less energy

than producing new metal, making initiatives like this one a practical way to reduce emissions and support the energy transition.

Learn more – Policy Reform for Aluminium Recycling in Australia

Watch the Australian Aluminium Council Webinar to hear Shona Markham, General Manager BSL, talk about recycling and what it could mean for local manufacturing.

