

STAGE 2, WASHER BRIDGE SUPPORT UPGRADES

Client: Rio Tinto

Location: Gladstone, QLD

Year of Completion: 2023

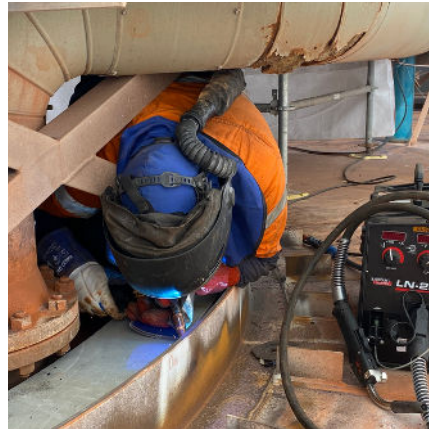
Project Type: Industrial blasting & painting, Project services,
Shutdown services



0 Weld fails

10km north-west of Gladstone, QLD sits Yarwun Alumina Refinery. Producing Alumina & hydrate, Yarwun refinery sees almost 3 million tonnes of alumina produced per year. To support this undertaking, Pructon was engaged to strengthen tank structures by replacing supporting members. These supporting members provide a foundation to support the centre tank top which in turn is supported off the walkways bridge above. The installation of these members has increased the safety longevity of the tank.

The tank requiring supports is a significant part of the extraction process for aluminum, holding the bauxite sludge. As such a shutdown period was required with 24 hour shifts to ensure operations could resume quickly.



Benefits

- Reduce inspections on the structural integrity of the tank top.
- Increased structural integrity of the tank top.
- Ability to read the load stresses on the tank
- Peace of mind regarding steel integrity after lamination scans and UT testing.
- Tanks can comfortably hold design capacity now.
- Area clean and ready for any future mechanical maintenance





Scope of Work

- Sandblasted all areas requiring new equipment
- NDT technician, ultra-sonic tested to ensure no defects - **passed with no impurities.**
- Installed 6-part ring beam, welded, inspected and tested for quality, location and purpose.
- **Flux-cored Arc Welding (FCAW)**
- Installed top supporting and bottom supporting lug. Checked alignment.
- Ensured load cell was correctly fitted to a 0.05mm tolerance.
- Installed internal stiffener plates. Welded and inspected.
- All components ultra-sonic tested and MPI (Mag Particle Inspected). **100% success rate.**
- Blasted and painted with quality checks for both.
- Modified pipework to move around new supporting members.

