

YARWUN UNIT 2 RELIEF PIT REMEDIATION

Client: Rio Tinto
Location: Yarwun, QLD
Year of Completion: 2023
Project Type: Civil, Industrial Blasting & Painting, Metal Fabrication, Project Services & Shutdown Services

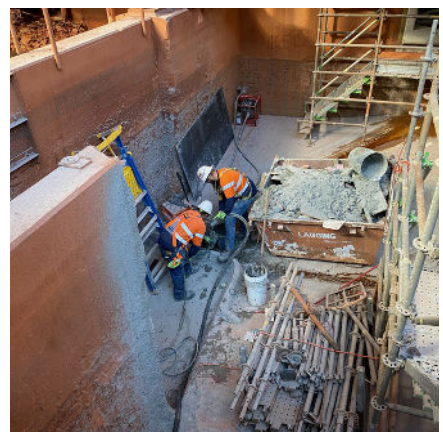
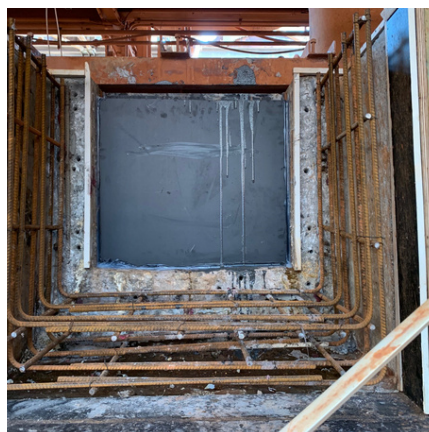
Project was delivered on time and under budget.

Constructed in 2002 the Rio Tinto Yarwun alumina refinery sees approximately 3 million tonnes of alumina produced a year which is then shipped to various customers around the world.

As part of the refining process pits are used to collect caustic sludge which is then disposed of as regulated. Due to the corrosive nature of the material, the concrete walls and floor over time became fatigued exposing the reo bar and causing concrete cancer. Pructon was engaged to undertake the remediation works on the pit. This included the installation of steel plates and high strength Renderoc G grout to improve the longevity of the pit.

Further to this Pructon was responsible for the restoration of steel pipework back to its original state. Fabrication of the large bore pipework was undertaken at our Gladstone workshop, then installed during a shutdown period. This meant the removal of all bypassing pipework and supports that were originally used to bypass the materials from the pit when concrete works were undertaken. Installation of new DN600, DN450 & DN400 piping make safe all handrails in the area. Similarly pipe supports were installed by Pructon. This work was undertaken during the major yearly digestion shutdown.

*www.riotinto.com



Benefits

- Improved safeguards against potential environmental impact from caustic material.
- Pructon has increased the longevity of the pit with the installation of steel plates.
- Project was delivered on time and under budget.



Scope of Work

- Project planning and review of design & engineering
- Obtained all materials and performed quality checks
- Site mobilised and established.
- Examination of pit and installation of scaffolding.
- Remediation repair of inlet channels including high pressure water blasting to remove containments and scale build-up; loose concrete removed; 20mm saw cut around perimeter; application of mortar; installation of Fosroc Renderoc G; installation of reinforcing steel.
- Remediation of vertical walls including high pressure water blasting to remove containments and scale build-up; loose concrete removed; Fosroc Nitoprime Zinrich applied to all exposed steel reinforcement; 20mm saw cut around perimeter; threaded anchors installed; installation of Fosroc Renderoc G; installed a steel plates to anchors; application of Fosroc Primer 13 and Fosroc Nitoseal SC600.
- Removal of old and installation of new platform & handrail over sump area.
- Site demobilised.