

Melville Island Bulk Fuel Facility Structural Concrete Works



Client	McMahon Services
Location	Melville Island, NT
Value	\$3.7 million
Duration	Oct 2014 - Mar 2015

Project Overview

The Tiwi Islands are a group of eleven islands located 80km north of Darwin where the Arafura Sea joins the Timor Sea. The two main inhabited islands are Melville and Bathurst, with a population of 3,000 mostly Tiwi Indigenous Australians. Melville Island is 5,800km² and is the second biggest island in Australia.

After entering into a 50-year lease agreement with the Tiwi Land Council, Teras Australia (a subsidiary of AGC AusGroup) constructed and developed Port Melville into a fully regulated and operational port to be used for cargo operations, fuel distribution and as a logistical hub for the oil and gas industry. McMahon Services was awarded the contract for civil and concreting works for the site's bulk fuel facility.

Ballestrin was contracted by McMahon Services to undertake all structural concrete works, providing a team of 22 people on a three and one roster to undertake the construction of three ring beams, bund floor and walls associated supporting concrete elements.

The project works consisted of blinding, formwork, reinforcement and construction of tank ring beams to very high tolerance levels, the supply and installation of reinforcement and formwork to construct a 7,500m² bund structure and

5m high bund walls, and the construction of tank slabs, pipework supports, headwalls and various other concrete elements. In total 2,500m³ of concrete was placed on site.

The project posed significant logistical challenges, with the remote nature of the works meaning extensive pre-planning was required to ensure availability of required materials.

There were also significant issues surrounding the placement of insitu concrete with regard to ambient temperature and humidity. To overcome these challenges, the team worked early morning shifts which commenced at 3.00am to take advantage of more favourable temperatures.

Concrete was supplied from a mobile batching plant and assessed against a comprehensive NATA quality assurance system that ensured each batch met and surpassed specified requirements. Changes in scope received post project award saw the Ballestrin team adding additional slab and wall joints, requiring rescheduling of workers and deliveries to the island. The project was successfully completed with nil safety and environmental incidents over 23,000 work hours.

