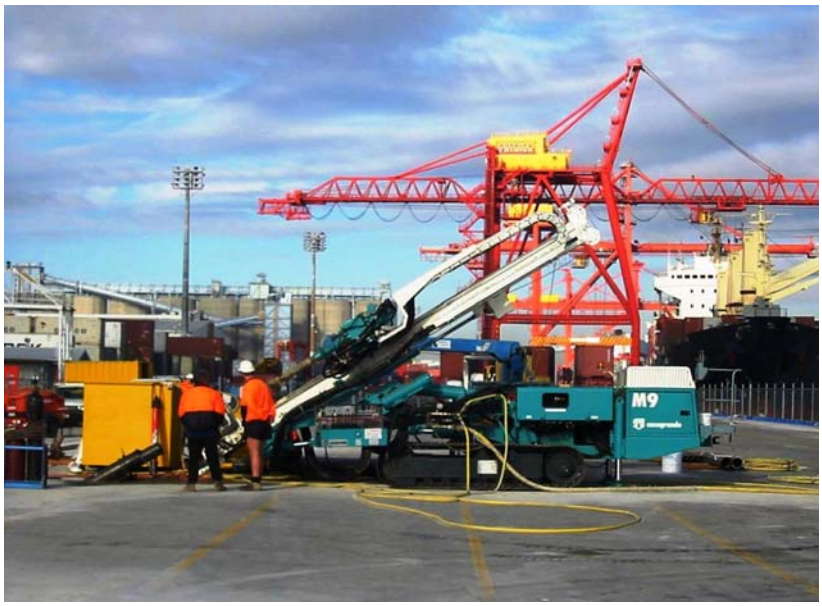
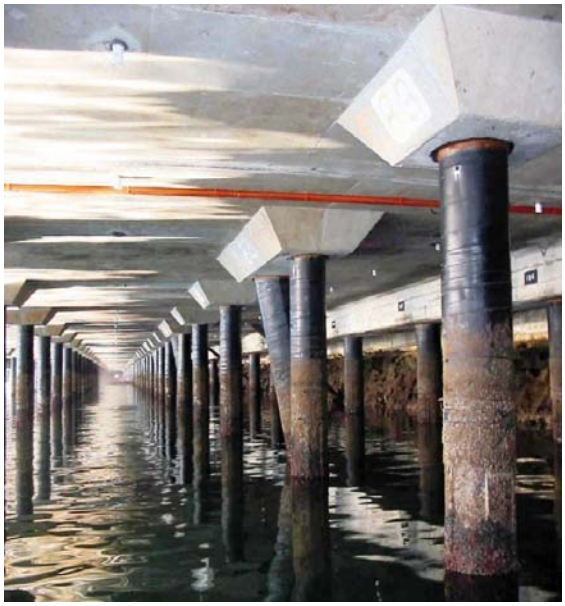
FISHERMAN ISLANDS

REMEDIAL GEOTECHNICAL AND STRUCTURAL WORKS TO BERTHS 4 AND 5

menard BACHY





Client: Port of Brisbane Corporation

Specialist Contractor: Menard Bachy Pty Ltd

THE PROJECT

The Fishermans Islands Terminal of the Port of Brisbane lies at the mouth of the Brisbane River, in the environmentally sensitive Moreton Bay Marine Park. Berths 4 and 5 were constructed 25 years ago and as a result of some movement in the underlying soils required tieing back with a permanent ground anchor system and the repair of damaged concrete at the pile deck interface. The work which would require the closure of the berths for the duration of the contract also afforded the Port with the opportunity of replacing 1200 lm of crane rail and this formed part of the contract.

The tender design prepared by KBR called for the installation of 41 no permanent ground anchors inclined at 30^{0} and anchored into the underlying basalt at depths up to 45m below deck level. The contract was divided into two portions enabling the berth's operator P&O to maintain operations on one berth while the other berth was being repaired. A twelve week time period was fixed for the contract duration after which the port's operation would be seriously affected if the work was not completed.

MENARD BACHY'S ROLE

At tender time Menard Bachy submitted an alternative proposal which would permit the anchors to be installed from the deck level and to be both monitored and restressed in the event of further movements of the wharf.

This alternative offered significant benefits to the client not only in the anchor arrangement but in the enhanced environmental controls which could be imposed on the drilling and grouting operations in the collection and control of materials. The Freyssinet 8C15 Permanent Ground Anchor System was used throughout the contract with anchor lengths of 110m being installed in some particularly bad areas along the wharf. For the anchor head Menard Bachy had proposed a concrete headstock which was formed and poured after the hydro-demolition of a slot in the existing 400mm thick deck.

The environmental sensitivity of the site was increased by the fact that it was directly under the flight path to Brisbane Airport and slicks on the water could be easily detected from the air. Comprehensive measures were put in place to contain drilling debris and grout from the anchor installation works.

Under the wharf repairs were undertaken by removal of concrete by hydro-demolition, and the placing of repair mortars using hand packing for small areas and dry spraying for the more common repairs. All material had to be collected before it could fall into the river.

The project was completed one week ahead of schedule thanks to the co-operation of the client and operator of the berths.

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