

## Beira Coal Terminal - Stacker Rail and Splitter Bin and Quay 8

Beira, Mozambique

Construction of stacker and quay area for temporary coal terminal in Beira.



### The project

Due to the construction of a coal-handling preparation plant on an operational site in Moatize it was necessary to create the conditions to export the mineral out of the country. On the first phase of this project the mine's output would be transported about 600km by rail to a new maritime terminal in Port of Beira.

## The challenge

The challenges encountered on this phase were numerous: the long and heavy reinforcement; the prohibition of the use of the man-cage, necessary to add and then remove a 7m flight extension with respect to each pile; and the difficulty in receiving a reliable and constant supply of ready-mix concrete as well as casing supply delays due to steel worker's strike.

For the construction of ship dolphins, a platform for the access of the crane and a guide frame for the tubes had to be assembled. This assembly necessitated the constant presence of a safety boat which, due to its frequent failure to arrive, proved to be one of the numerous constraints on the work. Another constraint was huge tidal ranges - approximately 6m at times.

## The solution

There were two main areas with regards to the piling works: the foundations for the Stacker Rail and Splitter Bin and the foundations for the Quay 8, in turn divided into the ship loader beam and the ship dolphins.

For the Stacker Rail and Splitter Bin area the project involved the installation of 298 No. 800mm diameter CFA piles to a depth of 28m, reinforced with 24.8m steel cages. Before starting the installation of the working piles, it was necessary to carry out a test programme to define the best methodology to apply to the drilling, steel placing, grout logging and also to understand the soil characteristics.

The two piling cranes were then moved to Quay 8 area to install the tube piles for the shiploader foundations and dolphins.

For the construction of ship dolphins, the installation of 8 No. Tube piles, 1300mm diameter, to depths of between 34.5m to 41.5m, was undertaken in the water and from the quay.

## Project facts

### Owner(s)

Vale do Rio Doce

### Keller business unit(s)

Keller Mozambique

### Main contractor(s)

Odebrecht

### Solutions

Heavy foundations

### Markets

Industrial

### Techniques

CFA piles (auger cast)

### Email address

[info.za@keller.com](mailto:info.za@keller.com)