

# NEWCASTLE COAL EXPORT TERMINAL DUMP STATION JET GROUTING WORKS



**Client:** Abigroup Contractors  
**Principal:** Connell Hatch

**Specialist Contractor:** Menard Bachy Pty Ltd

## THE PROJECT

The Newcastle Coal Infrastructure Group (NCIG) commissioned Connell Hatch to construct a new coal export facility situated on Kooragang Island near Newcastle. The project involves construction of coal storage areas, stacker/reclaimers, ship loading facilities, a rail loop off an existing line and a dump station and transfer conveyors. The site is situated on reclaimed land low lying swamp lands adjacent to the Hunter River.

Abigroup Contractors were engaged to construct the rail loop and dump station for the project. The dump station component of the works comprises a deep box into which incoming trains unload their coal from an overhead viaduct structure. The coal is then transferred via a series of conveyors to the surface and on to the coal storage areas.

### MENARD BACHY'S ROLE

Menard Bachy was engaged by Abigroup to install a series of jet grout columns in the base of the conveyor tunnel where groundwater control was difficult using traditional methods. The jet grouting was designed to act as a temporary seal against groundwater during excavation and to also act as a working platform for the construction activities.

Menard Bachy worked closely with Abigroup through their tender period to develop a cost effective and practical alternative to the work sequence provided by the principal. Using a jet grouted base to the excavation allowed for a faster and simpler construction sequence for the below ground works.

The jet grouting works were undertaken utilising a series of interlocking circular columns, drilled from the surface providing a continuous matrix of mass grouted ground. The jet grout columns produced a complete plug in the base of the conveyor tunnel up to 8m below ground level against water movement. The jet grouting works were conducted between pre-installed diaphragm wall sections.

The jet grouting works commenced in early April 2009 and was completed in three weeks, one week ahead of schedule. The project consisted of installing a total number of 150N<sup>o</sup>, 1.7m diameter columns with an average jet length of 1.2m per column.

The equipment used enabled all workings to be completed in limited space and without disruption whilst working alongside numerous other trades and subcontractors on site.