



ENVIRONMENT

MAYFIELD FORMER STEELWORKS

Groundwater barrier wall

AUSTRALIA



Owner

Regional Land Management Corporation

Engineer

URS/Douglas Partners

General contractor

Menard Oceania

Period of works

January 2006-June 2006

Main figures

Cut-off walls

World's deepest cut-off wall (50m deep)



Project description

In 2007 Menard Oceania successfully installed the world's deepest groundwater barrier wall using a continuous open trench method at the former Newcastle Steelworks site. Menard Oceania was engaged by Regional Land Management Corporation (RLMC) to design and construct the barrier wall to reduce the migration of contaminated groundwater to the adjacent Hunter River, as part of the remediation strategy for the site.

Ground conditions

Over the past 130 years, the site, located on the south bank of the Hunter River in Mayfield, has housed copper smelters, steelworks, coke ovens, gas holders and ancillary operations with steelworks waste (slag) used to fill majority of the site. The barrier wall was a key element of the proposed remediation strategy by forming an up-gradient barrier diverting groundwater flow away from the most heavily contaminated areas of the site.

Solution

Menard Oceania was chosen as the specialist contractor to carry out the design and construction of the barrier wall based on successful applications nationally and overseas. The works included:

- Mix design, quality control systems, laboratory and in-situ testing
- Preparation of the 37Ha site, including access roads, contaminated excavated soil management and environmental controls.
- Utilizing specialized excavation equipment to achieve trenches of up to 50m in depth.

On successfully completing the works in 2007, Menard Oceania received the 2007 Engineering Excellence Award for their involvement in the remediation of the former steel works site.

This success has seen an increased in the application of this technology as an economical method in solving groundwater movement across a number of different locations.

