

# Rock Weir Consolidation

## INDUSTRY

Infrastructure

## STRUCTURE

Weir

## PROBLEM

Void filling & sealing

## LOCATION

NSW, Australia

## DURATION / YEAR

3 days / 2007

## TECHNOLOGY

Structural Grouting

## BUSINESS UNIT

Mainmark Australia



## Summary

Uretek grout was used to fill and seal breaches in a dam structure and downstream in the rip-rap area to conglomerate the structure into a single impervious stable mass.

This work was done to assist the local Shire Council's water management and conservation strategy.

## Objectives

The objective was to stop the enormous volume of water loss from the weir in this very dry part of the country.

## Solution

Located within the heart of rural New South Wales, the Condoblin rock weir assists in the Lachlan Shire Council's local water management strategy.

The issue confronting the Council engineers was that the weir had exceeded its original design life, and consequently the concrete and timber-plank-faced dam wall below the water level was failing. This was allowing the water to penetrate the wall and threatened to wash away the supporting rock retaining structure, resulting in total weir failure.

The weir was estimated to be losing water volume far in excess of design flow, 25 megalitres (equivalent to 25 Olympic swimming pools) daily.

For this project, an environmentally inert, engineered structural resin was selected. The grout was injected from above, under difficult conditions, into the body of the supporting rock retaining structure, behind the dam face.

The grout successfully filled and sealed the breaches in the dam structure, stopping the flow of water below the waterline. Injection was then repeated into the adjacent supporting rock structure, a metre or two downstream of the dam wall.

The engineered structural resins consolidated and strengthened the wall and rock structure into a single and impervious mass.

The very large, excessive loss of water was eliminated, and at a very acceptable cost.