

# CASE STUDY

## Bore Water Treatment Production of High Quality Drinking Water



**Client: Quarry,  
Auckland, New  
Zealand**

**Treatment of bore  
water to supply safe  
drinking water to the  
local community**

Our privately-owned client runs a successful quarry that is rich with naturally occurring greywacke rock and supplies aggregates and bulk fill. Beneath the quarry is an aquifer that gives the client access to groundwater. The local community is not connected to the mains water and sometimes struggles to meet their water needs in dry seasons.

### **The Challenge**

The surrounding community does not have reticulated water and individual homes rely on 10m<sup>3</sup> rainwater tanks for their water supply. Given the unpredictable weather patterns and often dry conditions, the residents buy tanker water to supplement their supply. The client saw this as an opportunity to supply safe drinking water for domestic consumption via tankers to the surrounding community.

However, the bore-water had higher than acceptable levels of Manganese and iron.

# Bore Water Treatment

## Production of High Quality Drinking Water



Infinite Water Containerised System



Infinite Water Hydroxon™ Catalytic Oxidation Reactors

### Our Solution

Infinite Water designed and manufactured a 540m<sup>3</sup>/day water treatment plant that provided a multi-barrier approach to guarantee safe and secure drinking water.

Approved by the New Zealand Ministry of Health, the solution incorporates Hydroxon™, cartridge filtration and UV treatment to ensure effective disinfection, low turbidity and reduction of elevated metals to meet NZ drinking water guidelines.

Hydroxon™ utilises catalytic oxidation and co-precipitation processes. These processes are more effective than size exclusion processes such as dual media filters (DMF's) and membranes for producing high quality water.

### High performance in:

- ▶ Filtration (turbidity & suspended solids)
- ▶ Disinfection (viruses, bacteria, protozoa)
- ▶ Heavy metals removal
- ▶ Metals removal (including iron and manganese)
- ▶ Organics reduction
- ▶ Taste and odour compounds

### Features

The system is designed as a containerised package to facilitate shipment and installation. It is fully automated, with process monitoring and control to ensure stable operations.

Automated continuous processing, including sequencing and chemical additions are controlled via the PLC. The system is equipped with remote monitoring for data analysis and for ongoing service and maintenance.

