

## Electrochlorination facilities

(reference site only)



**TRILITY**  
A member of **BEWG**

# Electrochlorination facilities to disinfect potable and process water supplies



Four electrochlorination buildings, two brine buildings and four pump skids were manufactured and tested off-site. The completed buildings were then transported to site for installation and commissioning.



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# TRILITY was awarded a contract to build, install, test and commission electrochlorination facilities to disinfect both potable and process water supplies at a mine site in Western Australia.

Electrochlorination produces a low strength sodium hypochlorite solution on-demand for disinfection purposes. Disinfection is a critical component of the client's water quality management plans and is vital to ensuring the safe operation of the drinking water and raw water supplies.

The sodium hypochlorite is produced on-site and requires only salt, water and electrical power. The facilities consist of four electrochlorination (EC) buildings, two brine buildings and four pump skids which were manufactured and factory acceptance tested at the TRILITY workshop, prior to being transported to site. This approach enhances quality control due to the controlled assembly and testing and results in less on-site workforce management and reduced exposure to safety hazards.

The electrochlorination process starts with feed water passing through a Granulated Activated Carbon (GAC) filter for de-chlorination purposes. Dechlorinated water then passes through a water softening system and softened water is fed into a brine tank where the salt is dissolved to form a saturated brine solution. Next, the brine solution passes through a chiller unit to meet the electrochlorinator's (EC) water quality requirements.

The EC building is designed to generate sodium hypochlorite at a maximum of 16 hours a day at a rate of 5kg/hr to batch fill the sodium hypochlorite tanks. The operation of each EC train will alternate after the complete generation and fill of each train's sodium hypochlorite storage tank.

Overall, the scope of works included the structural, architectural, mechanical, electrical, instrumentation control and communication works. All works were completed to the client's company standards, Australian Standards and the Australian Drinking Water Guidelines.



## Who

This contract was awarded by the second-largest iron ore mining company in the Pilbara, Australia's largest iron ore mining region.

## What

Supply, manufacture, install, factory acceptance test and commission electrochlorination facilities.

## Where

Pilbara, Western Australia

## Why

To disinfect potable and process water supplies in accordance with the client's water quality management plans and the Australian Drinking Water Guidelines

## Snapshot

Client	Large mining company
Type of Contract	Solutions
Technology	Electrochlorination
Design Capacity	5kg/h sodium hypochlorite production
Term	N/A

### For further information