

Cloncurry Shire Council is committed to managing its drinking water supply systems effectively to provide customers with safe, high-quality water that consistently complies with the health based parameters of the Australian Drinking Water Guidelines.

### **How is our water treated?**

- Water supply utilities are obligated to provide their customers safe drinking water in compliance with the Australian Drinking Water Guidelines.
- Cloncurry Shire Council's water supply for the township of Cloncurry is extracted from either the Cloncurry River Wells, Chinamans Creek Dam or Lake

Julius water supply pipeline in accordance with licence allocations and prevailing river levels, dam storage and weather conditions.

- Prior to treatment this water supply is known as the 'raw' water supply. The source of the raw water supply can dictate the required treatment processes due to the different properties of the water.

After extraction, water is piped to Council's Phillips Street Water Treatment Plant. At the Plant, the raw water goes through a process of:

- chemical dosing to balance the pH level and to oxidise any iron or manganese in the raw water.

At this time a flocculant is also introduced to aid in filtration;

- clarification – to settle and remove sludge from the water;
- filtration – to remove the finer particles of the water;
- disinfection – using gaseous or liquid chlorine to kill any pathogens that remain in the water. The residual chlorine that remains in the water is very low – the equivalent of less than half a cup in domestic sized swimming pool.

The treated water is then pumped to a storage tower and from there passes through a pressure booster pump station before being distributed to the town supply network. Water quality, flow rates and pressure are checked prior to distribution.

### **How is our water tested?**

- Water microbiological samples are collected weekly from five (5) locations throughout the Council water supply network. These samples are sent via air freight to arrive for independent testing within eighteen (18) hours by the NATA accredited laboratory, Forensic and Scientific Services, operated by Queensland Health in Brisbane as per the Australian Drinking Water Guidelines.
- Physical sampling is also undertaken daily at Council's Phillip Street Water Treatment Plant.

## What do we test for?

- Biological, Physical and Chemical characteristics that may affect the quality of water are tested. These water quality indicators can be categorised as: Microbiological: bacteria, algae. Physical: temperature, turbidity, colour, dissolved solids, pH, dissolved oxygen, taste and odour. Chemical: Inorganic chemicals, including arsenic, chloride, copper, iron, lead, manganese, nitrate, nitrite, sodium, tin, zinc etc., organic compounds and disinfection by-products.

## How can there be Iron and Manganese in the water?

- Iron and Manganese both occur naturally in the earth's crust and are therefore present in many types of rock and in many groundwater supplies.
- Changing to different sources of raw water supply, will often lead to changes in the trace elements and chemical composition of the incoming raw water.
- Iron and manganese are both known to stain the water supply. They can make water appear red or yellow, create brown or black stains in the sink, and give off an easily detectable metallic taste.
- Although these can all be aesthetically displeasing, iron and manganese are not considered health risks. Fortunately, they can be removed from the water supply.
- Typically, laboratory tests are needed to quantify the extent of iron and manganese within the incoming raw water supply. The result of these tests then determines the appropriate treatment type, additives and processes required to remove the iron and/or manganese.

## Why is the water dirty at times?

- The colour of the water being supplied can be affected by either:  
a change to the source of the raw water – leading to different amounts of trace elements being present in the water. If this happens, the treatment process is adjusted as described above to remove these elements; or
- a sudden increase in the rate of water flow through the supply mains or a change in the direction of flow, that makes it possible to stir up sediments that have settled in the pipes over a period of time. These sediments are then suspended in the water, giving it a discoloured appearance. Although unsightly, the suspended particles that cause discoloured water are harmless to health. The sediment contains very fine iron and manganese particles.
- Water Supply mains are flushed on a cyclic basis to keep this problem to a minimum. Generally, reports of dirty water are addressed within 24 hours of the report.