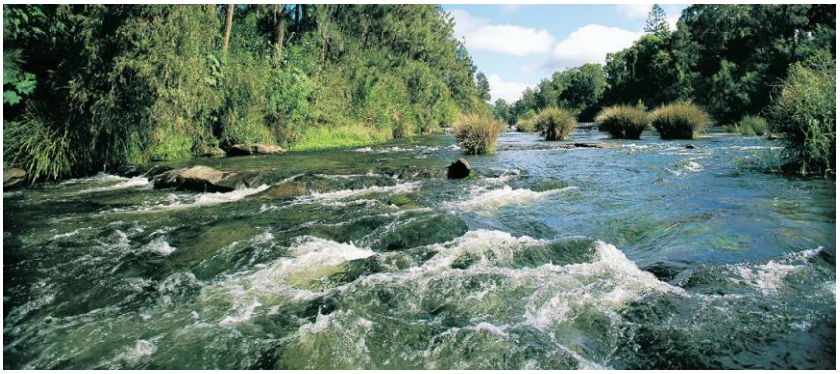
Richmond Valley Council

# DISCOLOURED WATER | **FACT SHEET**

From time to time our water's colour or appearance can change. Sometimes it can take on a yellow, rust or brown tint, other times it can appear milky white or blue. This is known as discoloured water.

This discolourisation is mostly caused by a buildup of trace elements within the water, such as iron and manganese. When these materials enter the water supply system they are in extremely low levels, however, over time they can accumulate in the pipes and when there are changes in flow conditions the water can become discoloured.



## Manganese

Typical of most rivers and streams, the Richmond River Catchment has low levels of soluble manganese ranging from 0 to 0.25 mg/L, averaging 0.03 mg/L. However, at concentrations as low as 0.02mg/L manganese will form manganese oxide sediments in pipes. Some nuisance organisms which typically exist in distribution systems can also concentrate manganese in the biofilm that lines the pipes.

Disturbance of the manganese deposits results in a yellow-brown colour in the water and sometimes an undesirable taste. It may also cause the staining of plumbing fixtures and laundry.

Manganese is regarded as a nuisance rather than a toxic component of drinking water. Although unsightly it is harmless to health and the water is safe to drink. The Australian Drinking Water Guidelines (ADWG) has an aesthetic guideline of 0.1mg/L for manganese and a health guideline of 0.5mg/L.

If manganese is removed from the water to concentrations below 0.02 mg/L then the buildup of deposits in the distribution system is greatly reduced. Manganese removal requires chemical oxidation from the soluble form to the insoluble manganese oxide. Once in the oxide form the particles are easily removed by filtration, however, soluble manganese is not removed by filtration methods.

***'At the Casino Water Treatment Plant, the raw water soluble manganese concentration is measured daily and the required quantity of the oxidant potassium permanganate is dosed prior to filtration'***

At the Casino Water Treatment Plant the raw water soluble manganese concentration is measured at least daily and the required quantity of the oxidant Potassium permanganate is dosed prior to filtration. The filtered water is then checked for the target concentration of less than 0.03 mg/L. This is well below the aesthetic guideline value of 0.1mg/L in the ADWG.

Discoloured water occurs occasionally in all water supply systems. It is most commonly caused when there is a sudden increase or change in direction of water flow through pipes.

Operational incidents, such as burst water mains, or use of fire hydrants are examples of events that cause this discolourisation.

Harmless deposits of iron and manganese that have accumulated within the water main over a period of time are disturbed and suspended in the water, giving it a discoloured appearance.

Although unsightly, the suspended particles do not present a health risk.

# Frequently Asked Questions

## What causes discoloured water?

Discoloured water is caused by a build up of deposits which settles in pipes. It may also occur when flows increase due to burst water mains, consumer demands or where operational changes reverse the flows in water mains.

In the Richmond Valley, the deposits may compromise manganese and iron which gives the water a yellow-brown colour and may stain plumbing fixtures and clothing.

## What should I do if I experience discoloured water?

If you experience discoloured water, it is usually only a temporary situation. We advise you to run the garden tap closest to your water meter into a bucket for two minutes to see if it clears.

**If it doesn't clear, please call Council on 02 666 00 300.**

## Is discoloured water safe to drink?

Yes. Although unsightly, the suspended particles that cause discoloured water are harmless to health and the water is safe to drink. Council has a comprehensive monitoring and testing program to ensure the safety of the drinking water.

Regular water samples are collected and tested from water sources, treatment plants and pipe networks. These tests look at microbiological and chemical levels which can affect customers' health, as well as aesthetic quality levels that can affect the taste and colour of water.

## What can I do if it stains my laundry?

The staining of your laundry from discoloured water is due to particles of sediment lodged in the fabric. The stain usually only becomes permanent if the laundry is allowed to dry.

It is, therefore, essential to keep stained laundry immersed in water and call Council for a cleaning kit.

**Do not use bleaching agents. They will only fix the stain and make it worse**.

## What if I have milky or white coloured water?

Water which is milky or white in colour is the result of small air bubbles within the water.

This is usually caused by air becoming trapped in the pipes after repair work to water mains.

This water is harmless and if left standing, the air will quickly dissipate and the water will become clear.

## What is Council doing to reduce discoloured water?

Council is undertaking a flushing program to help remove build up on the water mains.
Further cleaning programs will also start in the new year.

**For further information phone Richmond Valley Council on (02) 6660 0300**
**or visit www.richmondvalley.nsw.gov.au.**



Updated: July 2017