

## FACT SHEET

## DISCOLOURED TOWN WATER DUE TO MANGANESE



## Discoloured Town Water Due To Manganese

At times customers may experience brown discoloured water coming out of their tap from the town water supply. This is normally associated with the presence of manganese in the water.

Manganese is a naturally occurring element found in a variety of compounds in many water sources throughout the world (rivers, dams, bores).

At very low levels manganese is not noticed and water looks clear, as levels increase manganese can impart a “brown” orange tinge to the water. At very high levels water may look black.

Australian Drinking Water (ADWG) guideline values are as follows:-

- |                                      |     |
|--------------------------------------|-----|
| • Guideline Health value             | 0.5 |
| mg/litre                             |     |
| • Guideline Aesthetic (visual) value | 0.1 |
| mg/litre                             |     |

Council's Operational Target value for manganese in water leaving the treatment plant is 0.05 mg/litre (half the ADWG aesthetic value), and 10 times less than the guideline health value.

Ongoing testing confirms water leaving the WTP is below Councils Operational Target Value (currently manganese levels in town water are at about 0.03 mg/litre). Routine sampling from the water mains at a number of locations around town has also show that Council's operational limits are being met.

The water treatment plant has been operating effectively to control excess manganese and keep levels of manganese in the treated water to levels well below Australian Drinking Water Guidelines (ADWG).

### SO WHY ARE SOME CUSTOMERS EXPERIENCING DISCOLOURED WATER WHEN THEY TURN ON THEIR TAP?

Manganese builds up in water supply reservoirs and pipes over time. Even when it is present in treated water at very low levels, manganese can be further ‘oxidised’ by the chlorine in our town water to ‘drop out’ of the water as very fine sediment (manganese oxide). This manganese oxide slowly builds up and can form a tar like coating to the inside of water mains, as well as being deposited in our reservoirs.

At times, most often when there is high demand on our water system and flows in our water mains are high, the manganese oxide build-up may ‘slough’ off the wall of the water main as the water velocity increases. Sediment is also picked up and re-suspended in the faster flowing water. Unfortunately the manganese is redistributed throughout the water supply network resulting in discoloured water to some consumers.

### What is Council doing to manage this problem?

- Manganese deposited in the water supply network is difficult to remove, but Council is dealing with it in a number of ways.

#### Immediately Changed intake level at River

- Council has changed the intake draw-off level for our pumps in the Dawson River to a higher level.
- This should allow better quality raw water to be pumped to our treatment plant.
- Overall this may allow us to reduce the level of manganese in the treated water even further.

#### ‘Dead End’ Mains Flushing

## FACT SHEET

## DISCOLOURED TOWN WATER DUE TO MANGANESE

- Council has a program to regularly flush water from 'dead end mains' i.e. typically found in cul-de-sac and dead end streets.
- Frequency of flushing varies, but generally this is done every 2 to 6 weeks.
- This 'dead end' mains flushing helps remove water that may have been sitting in the mains longer than usual due to low usage/limited connections to mains.
- These are locations where water velocity is low and sediment drops out of suspension. Flushing helps to remove discoloured water from the system.

**Reservoir Cleaning Program**

- Cleaning of Council's reservoirs is a major exercise and is completed every 3–4 years at considerable cost.
- To avoid interruption to consumers, reservoirs are cleaned while still on-line by companies using divers and specialist equipment to suck out any sediment.
- This reservoir cleaning is due, but was deferred due to budget constraints.
- Given recurring discoloured water issues experienced by some consumers this cleaning will commence as soon as possible (estimated 1 – 2 months).

**Air Scouring Of Water Mains**

- Air-scoring of water mains is a process where air is injected to the water mains during the flushing process. The combination of air slugs and water is a more effective method of removing manganese oxide build up and sediment than flushing with water alone.
- Air scouring of Council's water mains is a significant exercise and is completed every 3–4 years. Unfortunately there is some interruption to consumers during this process, but that is unavoidable and minimised as much as possible.
- Air Scouring is due, but was deferred due to budget constraints. Given recurring discoloured water issues experienced by some consumers this cleaning will commence as soon as possible (estimated 1 – 2 months).

**Is there anything I can do to help as a water user?**

- Yes, definitely!

**Report discoloured water issue to Council ASAP**

- Report discoloured water as soon as possible to Council Customer Service (between 8am and 5pm), or outside of these hours call the afterhours water supply contact numbers as listed.
- This is the fastest way to alert Council Officers of the issue and enable investigation and response to commence. There is a tendency for people to post on the local Facebook buy/swap/sell sites, but not report to Council. By all means discuss on Facebook, but please report to Council as above so we can deal with the problem.

**On Hot Days Minimise non-essential water use**

- Yes, minimise non-essential water use on very hot days. Especially during peak times of 4pm to 8pm.
- This will help keep flow in water mains down, reducing water velocity and thereby minimising reducing re-suspension of manganese oxide particles.

**Stained washing due to manganese oxide deposits (black/brown stains)**

- If you happen to find black/brown stains on your laundry and believe it may be associated with discoloured town water, please keep the items wet. Black/brown spotted stains may be the result of manganese oxide. Bleaches contain chlorine which oxidises manganese. In this case please keep the laundry items wet and contact Council customer service. Council will supply a care pack with instructions that will remove the manganese oxide stains (note: this product does not remove general stains and is not a washing powder for general use).

**Contacts**

Council Customer Service (07) 4992 9500 or  
enquiries@banana.qld.gov.au

A/Hrs Moura/Banana Treatment on-call

0419 021 584 (water quality issues only)

**How can you contact us?**

online, visit [www.banana.qld.gov.au](http://www.banana.qld.gov.au)  
click on 'Contact us'



email [enquiries@banana.qld.gov.au](mailto:enquiries@banana.qld.gov.au)



telephone (07) 4992 9500



mail, post to Banana Shire Council  
PO Box 412, Biloela Qld 4715