Drinking Water Monitoring Report Cabonne Shire Council 2024/25
Executive Summary

In *2024/25 Cabonne Council* performed routine drinking water sampling and testing to monitor the quality of drinking water. The results were submitted to the NSW Drinking Water Database.

Compliance is determined against the Australian Drinking Water Guidelines (2011) guideline values for *E. coli*, physical and chemical characteristics of drinking water.

The *Molong water* supply system achieved compliance of 100% for physical, 97.37% for chemical, and 100% for microbiological samples.

The *Mullion Creek* supply system achieved compliance of 100% for physical, 100% for chemical, and 100% for microbiological samples.

Water Quality

Molong Water Supply

Summary

Table 1. Molong Water Quality Compliance

Sample Type	Sample Count	Number of Characteristics	Number of Non-Compliant Samples	Compliance (%)
Physical	2	10	0	100
Chemical	2	38	1	97.37
Microbiological	52		0	100

Routine Drinking Water Monitoring Characteristics

Table 2. Molong Water Treatment Plant Chronic health-related Chemical Water Quality Data

Characteristic	Guideline Value	Mean	Maximum	Sample count	Meeting Guideline Value (%)
Antimony	0.003	0.0002	0.0003	2	100
Arsenic	0.01	0.0005	0.0005	2	100
Barium	2	0.0225	0.0252	2	100
Boron	4	0.0063	0.0077	2	100
Cadmium	0.002	0.0001	0.00005	2	100
Chromium	0.05	0.0005	0.0005	2	100
Fluoride	1.5	0.05	0.05	2	100
Iodine	0.5	0.02	0.03	2	100
Lead	0.005	0.0035	0.0067	2	50
Manganese	0.1	0.0006	0.0011	2	100
Mercury	0.001	0.0004	0.0004	2	100
Molybdenum	0.05	0.0003	0.0003	2	100
Nickel	0.02	0.0002	0.0002	2	100

pH	6.5 - 8.5	7.05	7.1	2	100
Selenium	0.004	0.0035	0.0035	2	100
Silver	0.1	0.0001	0.0001	2	100
Uranium	0.02	0.0001	0.00005	2	100

Chronic health-related chemical characteristics are inorganic chemicals that might be present in water and can pose a risk to health with prolonged exposure. The Guideline values for these materials are usually set to be protective over a lifetime of exposure. Single results above a Guideline values are unlikely to pose a risk to health; compliance is based on analysing long term trends.

Table 3a. Molong Water Treatment Plant Acute health-related Chemical Water Quality Data

Characteristic	Guideline Value	Mean	Maximum	Sample count	Meeting Guideline Value (%)
Copper	2	0.0105	0.013	2	100
Nitrate	50	1	1	2	100
Nitrite	3	0.05	0.05	2	100

Acute health-related chemical characteristics are inorganic chemicals that can pose a health risk based on a small number of exposures. High concentrations of copper can cause vomiting. High concentrations of nitrite or nitrate can be risky for bottle-fed babies. The Guideline values for these characteristics have been set to protect people from short-term exposure.

Table 4b. Molong Water Treatment Plant Physical and Selected Aesthetic Chemical Water Quality Data

Characteristic	Guideline Value	Mean	Maximum	Sample count	Meeting Guideline Value (%)
Iron	0.3	0.01	0.01	2	100
Sodium	180	21	33	2	100
Total dissolved solids	10000	115	156	2	100
Total hardness	200	58.3	68	2	100
True Colour	15	0.75	1	2	100
Turbidity	5	0.1	0.1	2	100

Physical and aesthetic chemical characteristics change the way that water appears; its taste, smell, look and feel. These characteristics do not have health guideline values but do affect how people feel about their drinking water.

Table 5. Molong Water Treatment Plant Microbiological Water Quality Data

Characteristic	Guideline Value	Mean	Maximum	Sample count	Meeting Guideline Value (%)
E. coli	0	0	0	52	100
Free Chlorine	0.2 - 5	1.1179	1.8	52	100
Total Chlorine	5	1.2913	2	52	100

Escherichia coli, a bacteria found in the gut of many backboned animals, is an indicator that there has been recent contamination with faeces in a drinking water supply. Chlorine is used widely to kill disease-causing organisms in drinking water. A reasonable residual concentration in the supply provides ongoing protection all the way to customer taps, and gives some indication that filtration is working well and the distribution system is has not been compromised.

Other Monitoring

PFAS

Per-and-poly-fluoroalky substances (PFAS) testing has been undertaken at all Molong water sources including Molong Dam raw water, Molong potable water supply and Council Depot bore.

PFAS was not detected at all sites.

Mullion Creek

Summary

Table 6. Mullion Creek Water Quality Compliance

Sample Type	Sample Count	Number of Characteristics	Number of Non-Compliant Samples	Compliance (%)
Physical	2	10	0	100
Chemical	2	38	0	100
Microbiological	13		0	100

Routine Drinking Water Monitoring Characteristics

Table 7. Mullion Creek Chronic health-related Chemical Water Quality Data

Characteristic	Guideline Value	Mean	Maximum	Sample count	Meeting Guideline Value (%)
Antimony	0.003	0.0001	0.00005	2	100
Arsenic	0.01	0.001	0.001	2	100
Barium	2	0.0521	0.0532	2	100
Boron	4	0.0024	0.0027	2	100
Cadmium	0.002	0.0001	0.00005	2	100
Chromium	0.05	0.0005	0.0005	2	100
Fluoride	1.5	0.235	0.25	2	100
Iodine	0.5	0.04	0.04	2	100
Lead	0.005	0.0006	0.0008	2	100
Manganese	0.1	0.0002	0.00015	2	100
Mercury	0.001	0.0004	0.0004	2	100
Molybdenum	0.05	0.0004	0.0004	2	100
Nickel	0.02	0.0002	0.0002	2	100
pH	6.5 - 8.5	7.1	7.4	2	100
Selenium	0.004	0.0035	0.0035	2	100
Silver	0.1	0.0001	0.0001	2	100
Uranium	0.02	0.0002	0.0002	2	100

Chronic health-related chemical characteristics are inorganic chemicals that might be present in water and can pose a risk to health with prolonged exposure. The Guideline values for these materials are usually set to protective over a lifetime of exposure. Single results above a Guideline value are unlikely to pose a risk to health; compliance is based on analysing long term trends.

Table 8a. Mullion Creek Acute health-related Chemical Water Quality Data

Characteristic	Guideline Value	Mean	Maximum	Sample count	Meeting Guideline Value (%)
Copper	2	0.011	0.018	2	100
Nitrate	50	12	13	2	100
Nitrite	3	0.05	0.05	2	100

Acute health-related chemical characteristics are inorganic chemicals that can pose a health risk based on a small number of exposures. High concentrations of copper can cause vomiting. High concentrations of nitrite or nitrate can be risky for bottle-fed babies. The Guideline values for these characteristics have been set to protect people from short-term exposure.

Table 9b. Mullion Creek Physical and Selected Aesthetic Chemical Water Quality Data

Characteristic	Guideline Value	Mean	Maximum	Sample count	Meeting Guideline Value (%)
Iron	0.3	0.0125	0.02	2	100
Sodium	180	33	34	2	100
Total dissolved solids	10000	203	205	2	100
Total hardness	200	103.85	108.7	2	100
True Colour	15	0.5	0.5	2	100
Turbidity	5	0.2	0.3	2	100

Physical and aesthetic chemical characteristics change the way that water appears; its taste, smell, look and feel. These characteristics do not have health guideline values but do affect how people feel about their drinking water.

Table 10. Mullion Creek Microbiological Water Quality Data

Characteristic	Guideline Value	Mean	Maximum	Sample count	Meeting Guideline Value (%)
E. coli	0	0	0	13	100
Free Chlorine	0.2 - 5	1.9969	3.59	13	100
Total Chlorine	5	2.1992	3.64	13	100

Escherichia coli, a bacteria found in the gut of many backboned animals, is an indicator that there has been recent contamination with faeces in a drinking water supply. Chlorine is used widely to kill disease-causing organisms in drinking water. A reasonable residual concentration in the supply provides ongoing protection all the way to customer taps, and gives some indication that filtration is working well and the distribution system is has not been compromised.

Other Monitoring

PFAS

Per-and-poly-fluoroalky substances (PFAS) testing has been undertaken at all Mullion Creek water sources including Delgany Bore and potable supply.

PFAS was not detected at all sites.