Drinking Water Monitoring Report Cabonne Shire Council 2023/24
Executive Summary

In *2023/24*, *Molong Shire 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, 100% 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 Dam Water Quality Compliance

Sample Type	Sample Count	Number of Characteristics	Number of Non-Compliant Samples	Compliance (%)
Physical	12	6	0	100%
Chemical	81	20	0	100%
Microbiological	95		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	0.0030	0.00005	0.00005	3	100%
Arsenic	0.0100	0.0005	0.0005	3	100%
Barium	2.0000	0.0272	0.0303	3	100%
Boron	4.0000	0.0068	0.0075	3	100%
Cadmium	0.0020	0.00005	0.00005	3	100%
Chromium	0.0500	0.0005	0.0005	3	100%
Fluoride	1.5	0.0500	0.0500	1	100%
Iodine	0.5000	0.0200	0.0200	1	100%
Lead	0.0100	0.0003	0.0004	3	100%
Manganese	0.5000	0.0020	0.0046	3	100%
Mercury	0.0010	0.0004	0.0004	3	100%
Molybdenum	0.0500	0.0003	0.0003	3	100%
Nickel	0.0200	0.0002	0.0003	3	100%

pH	6.5-8.5	7.4359	7.76	32	100%
Selenium	0.0100	0.0035	0.0035	3	100%
Silver	0.1000	0.0001	0.0001	3	100%
Uranium	0.0200	0.00005	0.00005	3	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 value 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	2.0000	0.0107	0.0110	3	100%
Nitrate	50.0000	1.0000	1.0000	1	100%
Nitrite	3.0000	0.0500	0.0500	1	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	0.3000	0.0100	0.0100	3	100%
Sodium	180.0000	11.0000	11.0000	3	100%
Total dissolved solids	10000.0000	100.0000	100.0000	1	100%
Total hardness	200.0000	73.8333	77.4000	3	100%
True Colour	15.0000	0.5000	0.5000	1	100%
Turbidity	5.0000	0.1000	0.1000	1	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	0.0000	0.0000	0.0000	31	100%
Free Chlorine	0.2-5.0	1.3984	2.0800	32	100%
Total Chlorine	5.0000	1.5616	2.41	32	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 has not been compromised.

Other Monitoring

NIL

MULLION CREEK

Summary

Table 6. Delgany Bore Water Quality Compliance

Sample Type	Sample Count	Number of Characteristics	Number of Non-Compliant Samples	Compliance (%)
Physical	12	6	0	100%
Chemical	50	17	0	100%
Microbiological	33		0	100%

Routine Drinking Water Monitoring Characteristics

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

Characteristic	Guideline Value	Mean	Maximum	Sample count	Meeting Guideline Value (%)
Antimony	0.0030	0.00005	0.00005	3	100%
Arsenic	0.0100	0.0010	0.001	3	100%
Barium	2.0000	0.0533	0.0541	3	100%
Boron	4.0000	0.0033	0.0034	3	100%
Cadmium	0.0020	0.00005	0.00005	3	100%
Chromium	0.0500	0.0005	0.0005	3	100%
Fluoride	1.5000	0.2400	0.2400	1	100%
Iodine	0.5000	0.0400	0.0400	1	100%
Lead	0.0100	0.0007	0.0009	3	100%
Manganese	0.5000	0.0002	0.00015	3	100%
Mercury	0.0010	0.0004	0.0004	3	100%
Molybdenum	0.0500	0.0004	0.0004	3	100%
Nickel	0.0200	0.0002	0.0002	3	100%
pH	6.5-8.5	7.5	7.5	1	100%
Selenium	0.0100	0.0035	0.0035	3	100%
Silver	0.1000	0.0001	0.0001	3	100%
Uranium	0.0200	0.0003	0.0003	3	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 Water Treatment Plant Acute health-related Chemical Water Quality Data

Characteristic	Guideline Value	Mean	Maximum	Sample count	Meeting Guideline Value (%)
Copper	2.0000	0.0100	0.014	3	100%
Nitrate	50.0000	13.0000	13.0000	1	100%
Nitrite	3.0000	0.0500	0.0500	1	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 Water Treatment Plant Physical and Selected Aesthetic Chemical Water Quality Data

Characteristic	Guideline Value	Mean	Maximum	Sample count	Meeting Guideline Value (%)
Iron	0.3000	0.0100	0.0100	3	100%
Sodium	180.0000	34.3330	37.0000	3	100%
Total dissolved solids	10000.0000	183.0000	183.0000	1	100%
Total hardness	200.0000	116.7000	123.7000	3	100%
True Colour	15.0000	0.5000	0.5000	1	100%
Turbidity	5.0000	0.1000	0.1000	1	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 Water Treatment Plant Microbiological Water Quality Data

Characteristic	Guideline Value	Mean	Maximum	Sample count	Meeting Guideline Value (%)
E. coli	0.0000	0.0000	0.0000	11	100%
Free Chlorine	0.2-5	1.4909	2.7	11	100%
Total Chlorine	5.0000	1.5209	2.7700	11	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 has not been compromised.

Other Monitoring

NIL