

Drinking Water Monitoring Report Narromine Shire Council 2023-2024 Financial Year

Executive Summary

In 2023-2024, Narromine 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 Narromine supply system achieved compliance of 100% for physical, 100% for chemical, and 100% for microbiological samples.

The Tomingley supply system achieved compliance of 80% for physical, 100% for chemical, and 100% for microbiological samples.

The Trangie supply system achieved compliance of 87.5% for physical, 100% for chemical, and 100% for microbiological samples.

The information presented in (template form) below is intended as a summary the full Narromine Shire Council Annual Drinking Water Quality Management System Report which can be found via the link below.



Narromine Temporary Drinking Water Treatment Plant

Water Quality

Narromine Supply System

Summary

Table 1. Narromine Water Quality Compliance

Sample Type	Sample Count	Number of Characteristics	Number of Non-Compliant Samples	Compliance (%)
Physical	4	20	0	100%
Chemical	4	76	0	100%
Microbiological	51		0	100%

Routine Drinking Water Monitoring Characteristics

Table 2. Narromine Chronic health-related Chemical Water Quality Data

Characteristic	Guideline Value mg/L	Mean	Maximum	Sample count	Meeting Guideline Value (%)
Antimony	0.0003	0.0001	0.00005	4	100
Arsenic	0.01	0.0009	0.001	4	100
Barium	2	0.0662	0.0745	4	100
Boron	4	0.0902	0.2534	4	100
Cadmium	0.002	0.0001	0.00005	4	100
Chromium	0.05	0.0006	0.001	4	100
Fluoride	1.5	0.285	0.75	4	100
Iodine	0.5	0.0575	0.07	4	100
Lead	0.01	0.0021	0.0067	4	100
Manganese	0.5	0.0007	0.0011	4	100
Mercury	0.001	0.0004	0.0004	4	100
Molybdenum	0.05	0.0003	0.0007	4	100
Nickel	0.02	0.0005	0.0007	4	100
pH	6.5-8.5	7.75	8.3	4	100
Selenium	0.01	0.0035	0.0035	4	100
Silver	0.1	0.0001	0.0001	4	100
Uranium	0.02	0.0003	0.0004	4	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 Guideline values are unlikely to pose a risk to health; compliance is based on analysing long term trends.

Table 3a. Narromine Acute health-related Chemical Water Quality Data

Characteristic	Guideline Value	Mean	Maximum	Sample count	Meeting Guideline Value (%)
Copper	2.0	0.0523	0.185	4	100
Nitrate	50	8.5	11	4	100
Nitrite	3	0.05	0.050.3	4	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. Narromine Physical and Selected Aesthetic Chemical Water Quality Data

Characteristic	Guideline Value	Mean	Maximum	Sample count	Meeting Guideline Value (%)
Iron	0.3mg/L	0.0263	0.06	4	100
Sodium	180mg/L	130.75	291	4	75
Total dissolved solids	10000mg/L	393.25	568	4	100
Total hardness	200	146.025	198.2	4	100
True Colour	15 Hazen Units	0.625	1	4	100
Turbidity	5 NTU	0.3	1.1	4	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. Narromine Microbiological Water Quality Data

Characteristic	Guideline Value	Mean	Maximum	Sample count	Meeting Guideline Value (%)
E. coli	0	0	0	51	100
Free Chlorine	0.2-5mg/L	1.2106	1.88	51	100
Total Chlorine	5mg/L	1.2769	1.94	51	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

Table 4. Per- and Poly-fluorinated alkyl substances (PFAS) testing

Characteristic	Current ADWG value*	Proposed ADWG value*	Result	Meeting current ADWG value (%)
Perfluorooctanoic acid (PFOA)	0.560 µg/L	0.2 µg/L	<0.001µg/L	100
Perfluorooctane sulfonic acid (PFOS)	Sum of PFOS and PFHxS 0.07 µg/L	0.004 µg/L	0.003 µg/L	100
Perfluorohexane sulfonic acid (PFHxS)		0.03 µg/L	0.007µg/L	100
Perfluorobutane sulfonic acid (PFBS)	No current guideline value	1 µg/L	0.002µg/L	100

*Units: microgram per litre (µg/L),

PFAS chemicals - or per-and polyfluoroalkyl substances - are synthetic chemicals found in many everyday products. They have been widely used in many industrial and consumer applications as they are effective at resisting heat, stains, grease and water. The guideline values show the amount of PFAS in drinking water that a person can consume on a daily basis over a lifetime without any appreciable risk to health

The National Health and Medical Research Council (NHRMC) has stated that drinking water supplies that comply with the current [Australian Drinking Water Guidelines](#) (ADWG) are safe to drink.

The proposed drinking water guideline values are a draft and will not be considered final until they are published by the NHRMC, which is anticipated for April 2025. The existing PFAS guideline values remain current until the updated values are finalised and published.

Pesticide testing: Results for pesticides that were

The following pesticides were tested but not detected: 2,4,5-T, 2,4-D, Aldicarb, Aldrin, Atrazine, Azinphos-methyl, Beta-cyfluthrin, Bioresmethrin, Bromacil, Bromoxynil, Captan, Carbaryl, Carbendazim, Carbofuran, Carbophenothion, Chlordane, Chlorfenvinphos, Chlorothalonil, Chloroxuron, Chlorpyrifos, Clopyralid, Cypermethrin, DDT, Deltamethrin, Diazinon, Dicamba, Dichlobenil, Dichlorprop, Dichlorvos, Dicofol, Dieldrin, Dimethoate, Disulfoton, Diuron, Endosulfan, Ethion, Ethoprophos, Fenamiphos, Fenitrothion, Fenoprop, Fensulfothion, Fenthion, Fenvalerate, Fluometuron, Glyphosate, Haloxyfop, Heptachlor, Heptachlor epoxide, Hexazinone, Lindane, Maldison (Malathion), Mancozeb (for ETU), MCPA, Methidathion, Methiocarb, Methomyl, Methoxychlor, Metolachlor, Metribuzin, Mevinphos, Molinate, Oxamyl, Parathion, Parathion-methyl, Pendimethalin, Pentachlorophenol, Permethrin, Picloram, Pirimicarb, Pirimiphos-ethyl, Pirimiphos-methyl, Profenofos, Propachlor, Propanil, Propazine, Propiconazole, Quintozene, Simazine, Sulprofos, Terbufos, Terbutylazine, Terbutryn, Thiobencarb, Total of Aldrin and Dieldrin, Total of Heptachlor and Heptachlor epoxide,

Pesticides are a broad group of chemicals that have been developed to kill plants, insects and other invertebrates, and fungi. At low concentrations they 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.

Tomingley Supply System

Summary

Table 1. Tomingley Water Quality Compliance

Sample Type	Sample Count	Number of Characteristics	Number of Non-Compliant Samples	Compliance (%)
Physical	3	15	3	80
Chemical	3	57	0	100
Microbiological	17		0	100

Routine Drinking Water Monitoring Characteristics

{Perform a Results Report Quick, Summary in the NSW Health Drinking Water Database. Export results to CSV and copy and paste relevant values over to the tables below.}

Table 6. Tomingley Chronic health-related Chemical Water Quality Data

Characteristic	Guideline Value	Mean	Maximum	Sample count	Meeting Guideline Value (%)
Antimony	0.003	0.0001	0.00005	3	100
Arsenic	0.01	0.0009	0.001	3	100
Barium	2	0.0662	0.0745	3	100
Boron	4	0.0902	0.2534	3	100
Cadmium	0.002	0.0001	0.00005	3	100
Chromium	0.05	0.0006	0.001	3	100
Fluoride	1.5	0.285	0.75	3	100
Iodine	0.5	0.0575	0.07	3	100
Lead	0.01	0.0021	0.0067	3	100
Manganese	0.5	0.0007	0.0011	3	100
Mercury	0.001	0.0004	0.0004	3	100
Molybdenum	0.05	0.0003	0.0007	3	100
Nickel	0.02	0.0005	0.0007	3	100
pH	6.5-8.5	7.75	8.3	3	100
Selenium	0.01	0.0035	0.0035	3	100
Silver	0.1	0.0001	0.0001	3	100
Uranium	0.02	0.0003	0.0004	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 Guideline values are unlikely to pose a risk to health; compliance is based on analysing long term trends.

Table 7a. Tomingley Acute health-related Chemical Water Quality Data

Characteristic	Guideline Value	Mean	Maximum	Sample count	Meeting Guideline Value (%)
Copper	2.0	0.0523	0.185	3	100
Nitrate	50	8.5	11	3	100
Nitrite	3	0.05	0.050.3	3	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 8b. Tomingley Physical and Selected Aesthetic Chemical Water Quality Data

Characteristic	Guideline Value	Mean	Maximum	Sample count	Meeting Guideline Value (%)
Iron	0.3mg/L	0.0263	0.06	3	100
Sodium	180mg/L	130.75	291	3	100
Total dissolved solids	10000mg/L	393.25	568	3	100
Total hardness	200	206.02	217.0	3	0
True Colour	15 Hazen Units	0.625	1	3	100
Turbidity	5 NTU	0.3	1.1	3	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 9. Tomingley Microbiological Water Quality Data

Characteristic	Guideline Value	Mean	Maximum	Sample count	Meeting Guideline Value (%)
E. coli	0	0	0	3	100
Free Chlorine	0.2-5mg/L	1.2106	1.88	3	100
Total Chlorine	5mg/L	1.2769	1.94	3	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

Table 4. Tomingley Disinfection byproduct testing

Characteristic	Guideline Value	Mean	Maximum	Meeting Guideline Value (%)
Total Trihalomethanes	< 0.25mg/L	ND	ND	100
Chloroacetic acid	< 0.15mg/L	ND	ND	100
Dichloroacetic acid	< 0.10Mg/L	0.02	0.02	100
Trichloroacetic acid	<0.10Mg/L	ND	ND	100

Disinfection by-products are formed by the reaction of chlorine and natural organic material in the water. They can pose a risk to health with prolonged exposure. The Guideline values for these materials are set to be protective over a lifetime of exposure. **Note ND equals Nil Detected

Table 5. Tomingley Per- and Poly-fluorinated alkyl substances (PFAS) testing

Characteristic	Current ADWG value*	Proposed ADWG value*	Result	Meeting current ADWG value (%)
Perfluorooctanoic acid (PFOA)	0.560 µg/L	0.2 µg/L	<0.001	100
Perfluorooctane sulfonic acid (PFOS)	Sum of PFOS and PFHxS 0.07 µg/L	0.004 µg/L	0.001	100
Perfluorohexane sulfonic acid (PFHxS)		0.03 µg/L	0.002	100
Perfluorobutane sulfonic acid (PFBS)	No current guideline value	1 µg/L	<0.001	100

*Units: microgram per litre (µg/L),

PFAS chemicals - or per-and polyfluoroalkyl substances - are synthetic chemicals found in many everyday products. They have been widely used in many industrial and consumer applications as they are effective at resisting heat, stains, grease and water. The guideline values show the amount of PFAS in drinking water that a person can consume on a daily basis over a lifetime without any appreciable risk to health

The National Health and Medical Research Council (NHRMC) has stated that drinking water supplies that comply with the current [Australian Drinking Water Guidelines](#) (ADWG) are safe to drink.

The proposed drinking water guideline values are a draft and will not be considered final until they are published by the NHRMC, which is anticipated for April 2025. The existing PFAS guideline values remain current until the updated values are finalised and published.

PFAS are a class of chemicals that have been developed for fire-fighting, stain and water resistance and other uses. They can pose a risk to health with prolonged exposure. The Guideline values for these materials are set to be protective over a lifetime of exposure.

Tomingley Pesticide testing: Results for pesticides that were detected

The following pesticides were tested but not detected: 2,4,5-T, 2,4-D, Aldicarb, Aldrin, Atrazine, Azinphos-methyl, Beta-cyfluthrin, Bioresmethrin, Bromacil, Bromoxynil, Captan, Carbaryl, Carbendazim, Carbofuran, Carbophenothion, Chlordane, Chlorfenvinphos, Chlorothalonil, Chloroxuron, Chlorpyrifos, Clopyralid, Cypermethrin, DDT, Deltamethrin, Diazinon, Dicamba, Dichlobenil, Dichlorprop, Dichlorvos, Dicofol, Dieldrin, Dimethoate, Disulfoton, Diuron, Endosulfan, Ethion, Ethoprophos, Fenamiphos, Fenitrothion, Fenoprop, Fensulfothion, Fenthion, Fenvalerate, Fluometuron, Glyphosate, Haloxypop, Heptachlor, Heptachlor epoxide, Hexazinone, Lindane, Maldison (Malathion), Mancozeb (for ETU), MCPA, Methidathion, Methiocarb, Methomyl, Methoxychlor, Metolachlor, Metribuzin, Mevinphos, Molinate, Oxamyl, Parathion, Parathion-methyl, Pendimethalin, Pentachlorophenol, Permethrin, Picloram, Pirimicarb, Pirimiphos-ethyl, Pirimiphos-methyl, Profenofos, Propachlor, Propanil, Propazine, Propiconazole, Quintozene, Simazine, Sulprofos, Terbufos, Terbutylazine, Terbutryn, Thiobencarb, Total of Aldrin and Dieldrin, Total of Heptachlor and Heptachlor epoxide,

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Tomingley Drinking Water Treatment Plant

Trangie Supply System

Summary

Table 1. Trangie Water Quality Compliance

Sample Type	Sample Count	Number of Characteristics	Number of Non-Compliant Samples	Compliance (%)
Physical	4	20	3	87.5
Chemical	4	76	0	100
Microbiological	51		0	100

Routine Drinking Water Monitoring Characteristics

{Perform a Results Report Quick, Summary in the NSW Health Drinking Water Database. Export results to CSV and copy and paste relevant values over to the tables below.}

Table 10. Trangie Chronic health-related Chemical Water Quality Data

Characteristic	Guideline Value	Mean	Maximum	Sample count	Meeting Guideline Value (%)
Antimony	0.003mg/L	0.0001	0.0001	4	100
Arsenic	0.01mg/L	0.0006	0.001	4	100
Barium	2mg/L	0.0503	0.0654	4	100
Boron	4mg/L	0.1829	0.2449	4	100
Cadmium	0.002mg/L	0.0001	0.00005	4	100
Chromium	0.05mg/L	0.0011	0.002	4	100
Fluoride	1.5mg/L	0.615	0.78	4	100
Iodine	0.5mg/L	0.0375	0.07	4	100
Lead	0.01mg/L	0.0016	0.0054	4	100
Manganese	0.5mg/L	0.0013	0.003	4	100
Mercury	0.001mg/L	0.0004	0.0004	4	100
Molybdenum	0.05mg/L	0.0006	0.0007	4	100
Nickel	0.02mg/L	0.0004	0.0007	4	100
pH	6.5-8.5	7.925	8.3	4	100
Selenium	0.01mg/L	0.0035	0.0035	4	100
Silver	0.1mg/L	0.0001	0.0001	4	100
Uranium	0.02mg/L	0.0002	0.0007	4	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 values are unlikely to pose a risk to health; compliance is based on analysing long term trends.

Table 11a. Trangie Acute health-related Chemical Water Quality Data

Characteristic	Guideline Value	Mean	Maximum	Sample count	Meeting Guideline Value (%)
Copper	2.0mg/L	0.041	0.149	4	100
Nitrate	50mg/L	2.625	9	4	100
Nitrite	3mg/L	0.05	0.05	4	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 12b. Trangie Physical and Selected Aesthetic Chemical Water Quality Data

Characteristic	Guideline Value	Mean	Maximum	Sample count	Meeting Guideline Value (%)
Iron	0.3mg/L	0.21	0.55	4	100
Sodium	180mg/L	213.5	270	4	25
Total dissolved solids	10000mg/L	451.5	527	4	100
Total hardness	200	62.375	196.2	4	100
True Colour	15 Hazen Units	1	1	4	100
Turbidity	5 NTU	1.5	2.7	4	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 13. Trangie Microbiological Water Quality Data

Characteristic	Guideline Value	Mean	Maximum	Sample count	Meeting Guideline Value (%)
E. coli	0	0	0	51	100
Free Chlorine	0.2-5mg/L	1.0218	1.81	51	100
Total Chlorine	5mg/L	1.1237	1.87	51	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

Table 4 Trangie Per- and Poly-fluorinated alkyl substances (PFAS) testing

Characteristic	Current ADWG value*	Proposed ADWG value*	Result	Meeting current ADWG value (%)
Perfluorooctanoic acid (PFOA)	0.560 µg/L	0.2 µg/L	<0.001	100
Perfluorooctane sulfonic acid (PFOS)	Sum of PFOS and PFHxS 0.07 µg/L	0.004 µg/L	<0.001	100
Perfluorohexane sulfonic acid (PFHxS)		0.03 µg/L	<0.001	100
Perfluorobutane sulfonic acid (PFBS)	No current guideline value	1 µg/L	<0.001	100

*Units: microgram per litre (µg/L),

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Trangie Pesticide testing: Results for pesticides that were detected

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Terbutylazine, Terbutryn, Thiobencarb, Total of Aldrin and Dieldrin, Total of Heptachlor and Heptachlor epoxide,

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Trangie Drinking Water Reservoir and Chlorination System