Drinking Water Quality Annual Monitoring Report Calander Year 2024

Executive Summary

In 2024, Snowy Valleys 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) (ADWG) guideline values for *E. coli*, physical and chemical characteristics of drinking water.

Snowy Valleys Council have six (6) water supply treatment and reticulation systems, a high level summary of the results for each treatment plant is shown below.

- The ***Tumut*** *(SN01)* supply system achieved compliance of 100% for physical, 100% for chemical, and 100% for microbiological samples.
- The ***Batlow*** *(SN03)* supply system achieved compliance of 100% for physical, 100% for chemical, and 100% for microbiological samples.
- The ***Brungle*** *(SN04)* supply system achieved compliance of 100% for physical, 100% for chemical, and 100% for microbiological samples.
- The ***Talbingo*** *(SN05)* supply system achieved compliance of 100% for physical, 100% for chemical, and 100% for microbiological samples.
- The ***Khancoban*** *(SN07)* supply system achieved compliance of 100% for physical, 100% for chemical, and 100% for microbiological samples.
- The ***Tumbarumba*** *(SN08)* supply system achieved compliance of 100% for physical, 100% for chemical, and 100% for microbiological samples.

Water Quality

The following pages are detailed results for all six water supply treatment and reticulation systems.

The results show the individual characteristics tested, the number of samples undertaken, the mean and maximum value of all the samples for each characteristic and the level of compliance.

This year's data also includes recent samples for Per- and Poly-Fluorinated Alkyl Substances (PFAS). The results for all PFAS samples for Snowy Valleys Council's water supplies were recorded at the lower limit of detection. These results cannot be shown as "not detected", however less than or equal to the limit of detection means the characteristic could not be given a specific result or number and may or may not be present below the number recorded.

Compliance for microbiological samples are based on E. coli results where samples have 100% compliance. While a number of free chlorine samples have been recorded outside of the 0.2 to 5 mg/L in laboratory analysis, chlorine levels can dissipate in transit. Operational tests during sample collection are within the acceptable range.

1. Tumut Water Supply System (SN01)

Summary

Table 1.1. Tumut (SN01) Water Quality Compliance

Sample Type	Sample Count	Number of Characteristics	Number of Non-Compliant Samples	Compliance (%)
Physical	14	70	0	100
Chemical	14	266	0	100
Microbiological	82		0	100

Routine Drinking Water Monitoring Characteristics

Table 1.2. Tumut (SN01) Chronic health-related Chemical Water Quality Data

Characteristic	Guideline Value Mg/L	Mean	Maximum	Sample count	Meeting Guideline Value (%)
Antimony	0.0030	0.0001	0.00005	14	100
Arsenic	0.0100	0.0005	0.0005	14	100
Barium	2.0000	0.0065	0.0089	14	100
Boron	4.0000	0.0024	0.0031	14	100
Cadmium	0.0020	0.0001	0.00005	14	100
Chromium	0.0500	0.0006	0.001	14	100
Fluoride	1.5000	0.9143	1.09	14	100
Iodine	0.5000	0.0100	0.01	14	100
Lead	0.0100	0.0001	0.0002	14	100
Manganese	0.5000	0.0024	0.0062	14	100
Mercury	0.0010	0.0004	0.0004	14	100
Molybdenum	0.0500	0.0001	0.0005	14	100
Nickel	0.0200	0.0005	0.002	14	100
pH	6.5 - 8.5	7.4000	7.8	14	100
Selenium	0.0100	0.0035	0.0035	14	100
Silver	0.1000	0.0001	0.0001	14	100
Uranium	0.0200	0.0001	0.00005	14	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 1.2a. Tumut (SN01) Acute health-related Chemical Water Quality Data

Characteristic	Guideline Value Mg/L	Mean	Maximum	Sample count	Meeting Guideline Value (%)
Copper	2	0.0071	0.021	14	100
Nitrate	50	0.5	0.5	14	100
Nitrite	3	0.05	0.05	14	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 1.2b. Tumut (SN01) Physical and Selected Aesthetic Chemical Water Quality Data

Characteristic	Guideline Value	Mean	Maximum	Sample count	Meeting Guideline Value (%)
Iron	0.3000mg/L	0.0164	0.11	14	100
Sodium	180mg/L	5.7143	7	14	100
Total dissolved solids	10000mg/L	26.7143	35	14	100
Total hardness	200mg/L	15.4714	19.2	14	100
True Colour	15 HU	1.0714	2	14	100
Turbidity	5NTU	0.2643	1.1	14	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 1.3. Tumut (SN01) Microbiological Water Quality Data

Characteristic	Guideline Value	Mean	Maximum	Sample count	Meeting Guideline Value (%)
E. coli	0mpn/100 mL	0.0000	0	82	100
Free Chlorine	0.2-5 mg/L	0.8273	1.41	82	97.56
Total Chlorine	5 mg/L	1.1211	1.81	82	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 Sampling

Table 1.4. Tumut (SN01) Per- and Poly-Fluorinated Alkyl Substances (PFAS) Testing

Characteristic	Guideline Value	Mean	Maximum	Meeting Guideline Value (%)
Sum of perfluorooctane sulfonate (PFOS) and perfluorohexane sulfonate (PFHxS)	0.07 µg/L	0.0005	0.0005	100
Perfluorooctanoic acid (PFOA)	0.56 µg/L	0.0005	0.0005	100

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.

2. Batlow Supply System (SN03)

Summary

Table 2.1. Batlow (SN03) Water Quality Compliance

Sample Type	Sample Count	Number of Characteristics	Number of Non-Compliant Samples	Compliance (%)
Physical	1	5	0	100
Chemical	12	30	0	100
Microbiological	51		0	100

Routine Drinking Water Monitoring Characteristics

Table 2.2. Batlow (SN03) Chronic health-related Chemical Water Quality Data

Characteristic	Guideline Value Mg/L	Mean	Maximum	Sample count	Meeting Guideline Value (%)
Antimony	0.0030	0.0001	0.00005	1	100
Arsenic	0.0100	0.0005	0.0005	1	100
Barium	2.0000	0.0067	0.0067	1	100
Boron	4.0000	0.0029	0.0029	1	100
Cadmium	0.0020	0.0001	0.00005	1	100
Chromium	0.0500	0.0010	0.001	1	100
Fluoride	1.5000	0.4700	0.47	1	100
Iodine	0.5000	0.0100	0.01	1	100
Lead	0.0100	0.0003	0.0003	1	100
Manganese	0.5000	0.0040	0.004	1	100
Mercury	0.0010	0.0004	0.0004	1	100
Molybdenum	0.0500	0.0006	0.0006	1	100
Nickel	0.0200	0.0027	0.0027	1	100
pH	6.5 - 8.5	7.1000	7.1	1	100
Selenium	0.0100	0.0035	0.0035	1	100
Silver	0.1000	0.0001	0.0001	1	100
Uranium	0.0200	0.0001	0.00005	1	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 2.2a. Batlow (SN03) Acute health-related Chemical Water Quality Data

Characteristic	Guideline Value Mg/L	Mean	Maximum	Sample count	Meeting Guideline Value (%)
Copper	2.0000	0.0330	0.033	1	100
Nitrate	50.00	1.0000	1	1	100
Nitrite	3.0000	0.0500	0.05	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 2.2b. Batlow (SN03) Physical and Selected Aesthetic Chemical Water Quality Data

Characteristic	Guideline Value	Mean	Maximum	Sample count	Meeting Guideline Value (%)
Iron	0.30mg/L	0.0200	0.02	1	100
Sodium	180.00mg/L	3.0000	3	1	100
Total dissolved solids	10000mg/L	23.0000	23	1	100
Total hardness	200.00mg/L	21.6000	21.6	1	100
True Colour	15.00 HU	3.0000	3	1	100
Turbidity	5.00 NTU	0.2000	0.2	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 2.3. Batlow (SN03) Microbiological Water Quality Data

Characteristic	Guideline Value	Mean	Maximum	Sample count	Meeting Guideline Value (%)
E. coli	0.0000	0.0000	0	51	100
Free Chlorine	0.2 - 5	0.7396	1.68	51	96.08
Total Chlorine	5.0000	1.0161	1.78	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 Sampling

Table 2.4. Batlow (SN03) Per- and Poly-Fluorinated Alkyl Substances (PFAS) Testing

Characteristic	Guideline Value	Mean	Maximum	Meeting Guideline Value (%)
Sum of perfluorooctane sulfonate (PFOS) and perfluorohexane sulfonate (PFHxS)	0.0700µg/L	0.0005	0.0005	100
Perfluorooctanoic acid (PFOA)	0.5600µg/L	0.0005	0.0005	100

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.

3. Brungle Supply System (SN04)

Summary

Table 3.1. Brungle (SN04) 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	52		0	100

Routine Drinking Water Monitoring Characteristics

Table 3.2. Brungle (SN04) Chronic health-related Chemical Water Quality Data

Characteristic	Guideline Value Mg/L	Mean	Maximum	Sample count	Meeting Guideline Value (%)
Antimony	0.0030	0.0001	0.00005	2	100
Arsenic	0.0100	0.0008	0.001	2	100
Barium	2.0000	0.0108	0.0149	2	100
Boron	4.0000	0.0043	0.0059	2	100
Cadmium	0.0020	0.0001	0.00005	2	100
Chromium	0.0500	0.0008	0.001	2	100
Fluoride	1.5000	0.0500	0.05	2	100
Iodine	0.5000	0.0100	0.01	2	100
Lead	0.0100	0.0009	0.0012	2	100
Manganese	0.5000	0.0025	0.0032	2	100
Mercury	0.0010	0.0004	0.0004	2	100
Molybdenum	0.0500	0.0004	0.0006	2	100
Nickel	0.0200	0.0016	0.0024	2	100
pH	6.5 - 8.5	7.4500	7.7	2	100
Selenium	0.0100	0.0035	0.0035	2	100
Silver	0.1000	0.0001	0.0001	2	100
Uranium	0.0200	0.0001	0.0001	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 values are unlikely to pose a risk to health; compliance is based on analysing long term trends.

Table 3.2a. Brungle (SN04) Acute health-related Chemical Water Quality Data

Characteristic	Guideline Value Mg/L	Mean	Maximum	Sample count	Meeting Guideline Value (%)
Copper	2.0000	0.0245	0.034	2	100
Nitrate	50.00	0.75	1	2	100
Nitrite	3.0000	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 3.2b. Brungle (SN04) Physical and Selected Aesthetic Chemical Water Quality Data

Characteristic	Guideline Value	Mean	Maximum	Sample count	Meeting Guideline Value (%)
Iron	0.30mg/L	0.0200	0.02	2	100
Sodium	180.00mg/L	8.5	11	2	100
Total dissolved solids	10000mg/L	45	65	2	100
Total hardness	200.00mg/L	26.85	35.9	2	100
True Colour	15.00 HU	3.5	6	2	100
Turbidity	5.00 NTU	0.15	0.2	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 3.3. Brungle (SN04) Microbiological Water Quality Data

Characteristic	Guideline Value	Mean	Maximum	Sample count	Meeting Guideline Value (%)
E. coli	0.0000	0.0000	0	52	100
Free Chlorine	0.2 - 5	0.6061	1.64	49	77.55
Total Chlorine	5.0000	0.8229	1.88	48	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 Sampling

Table 3.4. Brungle (SN04) Per- and Poly-Fluorinated Alkyl Substances (PFAS) Testing

Characteristic	Guideline Value	Mean	Maximum	Meeting Guideline Value (%)
Sum of perfluorooctane sulfonate (PFOS) and perfluorohexane sulfonate (PFHxS)	0.0700µg/L	0.0005	0.0005	100
Perfluorooctanoic acid (PFOA)	0.5600µg/L	0.0005	0.0005	100

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.

4. Khancoban Supply System (SN07)

Summary

Table 4.1. Khancoban (SN07) 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	26		0	100

Routine Drinking Water Monitoring Characteristics

Table 4.2. Khancoban (SN07) Chronic health-related Chemical Water Quality Data

Characteristic	Guideline Value Mg/L	Mean	Maximum	Sample count	Meeting Guideline Value (%)
Antimony	0.0030	0.0001	0.0001	2	100
Arsenic	0.0100	0.0008	0.001	2	100
Barium	2.0000	0.0040	0.0049	2	100
Boron	4.0000	0.0022	0.0035	2	100
Cadmium	0.0020	0.0001	0.00005	2	100
Chromium	0.0500	0.0005	0.0005	2	100
Fluoride	1.5000	0.0500	0.05	2	100
Iodine	0.5000	0.0100	0.01	2	100
Lead	0.0100	0.0005	0.0007	2	100
Manganese	0.5000	0.0009	0.0011	2	100
Mercury	0.0010	0.0004	0.0004	2	100
Molybdenum	0.0500	0.0002	0.0002	2	100
Nickel	0.0200	0.0002	0.0002	2	100
pH	6.5 - 8.5	7.2500	7.4	2	100
Selenium	0.0100	0.0035	0.0035	2	100
Silver	0.1000	0.0001	0.0001	2	100
Uranium	0.0200	0.0001	0.0001	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 Guideline values are unlikely to pose a risk to health; compliance is based on analysing long term trends.

Table 4.3. Khancoban (SN07) Acute health-related Chemical Water Quality Data

Characteristic	Guideline Value Mg/L	Mean	Maximum	Sample count	Meeting Guideline Value (%)
Copper	2.0000	0.1635	0.322	2	100
Nitrate	50.00	0.7500	1	2	100
Nitrite	3.0000	0.0500	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 4.4. Khancoban (SN07) Physical and Selected Aesthetic Chemical Water Quality Data

Characteristic	Guideline Value	Mean	Maximum	Sample count	Meeting Guideline Value (%)
Iron	0.30mg/L	0.0450	0.07	2	100
Sodium	180.00mg/L	3.0000	4	2	100
Total dissolved solids	10000mg/L	23.5000	24	2	100
Total hardness	200.00mg/L	15.4500	20.6	2	100
True Colour	15.00 HU	2.0000	2	2	100
Turbidity	5.00 NTU	0.2500	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 4.5. Khancoban (SN07) Microbiological Water Quality Data

Characteristic	Guideline Value	Mean	Maximum	Sample count	Meeting Guideline Value (%)
E. coli	0.0000	0.0000	0	26	100
Free Chlorine	0.2 - 5	1.0246	1.52	26	100
Total Chlorine	5.0000	1.1342	1.8	26	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 Sampling

Table 4.6. Khancoban (SN07) Per- and Poly-Fluorinated Alkyl Substances (PFAS) Testing

Characteristic	Guideline Value	Mean	Maximum	Meeting Guideline Value (%)
Sum of perfluorooctane sulfonate (PFOS) and perfluorohexane sulfonate (PFHxS)	0.0700µg/L	0.0005	0.0005	100
Perfluorooctanoic acid (PFOA)	0.5600µg/L	0.0005	0.0005	100

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.

5. Talbingo Supply System (SN05)

Summary

Table 5.1. Talbingo (SN05) 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	26		0	100

Routine Drinking Water Monitoring Characteristics

Table 5.2. Talbingo (SN05) Chronic health-related Chemical Water Quality Data

Characteristic	Guideline Value Mg/L	Mean	Maximum	Sample count	Meeting Guideline Value (%)
Antimony	0.0030	0.0001	0.00005	2	100
Arsenic	0.0100	0.0005	0.0005	2	100
Barium	2.0000	0.0064	0.0083	2	100
Boron	4.0000	0.0020	0.002	2	100
Cadmium	0.0020	0.0001	0.00005	2	100
Chromium	0.0500	0.0005	0.0005	2	100
Fluoride	1.5000	0.0500	0.05	2	100
Iodine	0.5000	0.0100	0.01	2	100
Lead	0.0100	0.0001	0.0001	2	100
Manganese	0.5000	0.0014	0.0015	2	100
Mercury	0.0010	0.0004	0.0004	2	100
Molybdenum	0.0500	0.0001	0.0001	2	100
Nickel	0.0200	0.0002	0.0002	2	100
pH	6.5 - 8.5	7.4000	7.6	2	100
Selenium	0.0100	0.0035	0.0035	2	100
Silver	0.1000	0.0001	0.0001	2	100
Uranium	0.0200	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 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 5.2a. Talbingo (SN05) Acute health-related Chemical Water Quality Data

Characteristic	Guideline Value Mg/L	Mean	Maximum	Sample count	Meeting Guideline Value (%)
Copper	2.0000	0.0025	0.003	2	100
Nitrate	50.00	0.5000	0.5	2	100
Nitrite	3.0000	0.0500	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 5.2b. Talbingo (SN05) Physical and Selected Aesthetic Chemical Water Quality Data

Characteristic	Guideline Value	Mean	Maximum	Sample count	Meeting Guideline Value (%)
Iron	0.30mg/L	0.0100	0.01	2	100
Sodium	180.00mg/L	10.0000	12	2	100
Total dissolved solids	10000mg/L	37.5000	39	2	100
Total hardness	200.00mg/L	19.1000	22.9	2	100
True Colour	15.00 HU	1.0000	1	2	100
Turbidity	5.00 NTU	0.1500	0.2	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 5.3. Talbingo (SN05) Microbiological Water Quality Data

Characteristic	Guideline Value	Mean	Maximum	Sample count	Meeting Guideline Value (%)
E. coli	0.0000	0.0000	0	26	100
Free Chlorine	0.2 - 5	0.4077	0.83	26	96.15
Total Chlorine	5.0000	0.6669	1.24	26	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 Sampling

Table 5.4. Talbingo (SN05) Per- and Poly-Fluorinated Alkyl Substances (PFAS) Testing

Characteristic	Guideline Value	Mean	Maximum	Meeting Guideline Value (%)
Sum of perfluorooctane sulfonate (PFOS) and perfluorohexane sulfonate (PFHxS)	0.0700µg/L	0.0005	0.0005	100
Perfluorooctanoic acid (PFOA)	0.5600µg/L	0.0005	0.0005	100

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.

6. Tumbarumba Supply System (SN08)

Summary

Table 6.1. Tumbarumba (SN08) Water Quality Compliance

Sample Type	Sample Count	Number of Characteristics	Number of Non-Compliant Samples	Compliance (%)
Physical	2	10	0	100
Chemical	14	50	0	100
Microbiological	51		0	100

Routine Drinking Water Monitoring Characteristics

Table 6.2. Tumbarumba (SN08) Chronic health-related Chemical Water Quality Data

Characteristic	Guideline Value Mg/L	Mean	Maximum	Sample count	Meeting Guideline Value (%)
Antimony	0.0030	0.0001	0.00005	2	100
Arsenic	0.0100	0.0008	0.001	2	100
Barium	2.0000	0.0044	0.005	2	100
Boron	4.0000	0.0015	0.0022	2	100
Cadmium	0.0020	0.0001	0.00005	2	100
Chromium	0.0500	1.5500	1.8	2	100
Fluoride	1.5000	2.5000	3	2	100
Iodine	0.5000	0.0005	0.0005	2	100
Lead	0.0100	0.8150	0.88	2	100
Manganese	0.5000	0.0100	0.01	2	100
Mercury	0.0010	0.0001	0.0001	2	100
Molybdenum	0.0500	0.0002	0.0003	2	100
Nickel	0.0200	0.0004	0.0004	2	100
pH	6.5 - 8.5	0.0001	0.00005	2	100
Selenium	0.0100	0.0005	0.0007	2	100
Silver	0.1000	7.4000	7.7	2	100
Uranium	0.0200	0.0035	0.0035	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 Guideline values are unlikely to pose a risk to health; compliance is based on analysing long term trends.

Table 6.2a. Tumbarumba (SN08) Acute health-related Chemical Water Quality Data

Characteristic	Guideline Value Mg/L	Mean	Maximum	Sample count	Meeting Guideline Value (%)
Copper	2.0000	0.0055	0.009	2	100
Nitrate	50.00	0.5000	0.5	2	100
Nitrite	3.0000	0.0500	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 6.2b. Tumbarumba (SN08) Physical and Selected Aesthetic Chemical Water Quality Data

Characteristic	Guideline Value	Mean	Maximum	Sample count	Meeting Guideline Value (%)
Iron	0.30mg/L	0.0075	0.01	2	100
Sodium	180.00mg/L	10.0000	10	2	100
Total dissolved solids	10000mg/L	37.0000	44	2	100
Total hardness	200.00mg/L	6.3000	7.1	2	100
True Colour	15.00 HU	0.7500	1	2	100
Turbidity	5.00 NTU	1.4000	2.7	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 6.3. Table 1. Tumbarumba SN08 Microbiological Water Quality Data

Characteristic	Guideline Value	Mean	Maximum	Sample count	Meeting Guideline Value (%)
E. coli	0.0000	0.0000	0	51	100
Free Chlorine	0.2 - 5	0.4903	0.86	50	96.0
Total Chlorine	5.0000	0.5760	0.94	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 has not been compromised.

Other Sampling

Table 6.4. Tumbarumba (SN08) Per- and Poly-Fluorinated Alkyl Substances (PFAS) testing

Characteristic	Guideline Value	Mean	Maximum	Meeting Guideline Value (%)
Sum of perfluorooctane sulfonate (PFOS) and perfluorohexane sulfonate (PFHxS)	0.0700µg/L	0.0005	0.0005	100
Perfluorooctanoic acid (PFOA)	0.5600µg/L	0.0005	0.0005	100

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.