Drinking Water Test Report

To:	Dairy Flat School
From:	Waste Management–Redvale
Sampling Date:	13 August 2026
Sampling Locations:	Staff Room (Figure 1), Health Room (Figure 2), Hall Kitchen (Figure 3)
Sampling Source:	Water Tap
Analytical Institution:	Hill Laboratories

Executive Summary

August 2026 monitoring indicated that the drinking water quality remained satisfactory across all three sampling locations. No *E. coli* was detected, turbidity remained low, and all chemical parameters were within the relevant New Zealand Drinking Water Standards.

The pH remained below the aesthetic guideline range, although values increased compared with June and July. However, pH is an aesthetic parameter and does not indicate a public health concern. Overall, the results demonstrate stable drinking water quality with no evidence of microbiological or chemical contamination.

Sampling Method

Routine water quality and *E. coli* samples were collected in accordance with Hill Laboratories' guidelines. Samples were taken using laboratory-supplied containers without pre-rinsing.

Three tap locations were sampled: the Staff Room, Health Room and Hall Kitchen, as shown in Figures 1–3. The tap outlets were disinfected using alcohol wipes and flushed for approximately 2–3 minutes before sample collection. Samples were then collected directly into the laboratory-supplied containers and securely capped.

For microbiological analysis, sterile containers were used and aseptic techniques were followed. The inside of the containers and lids were not touched, and samples were filled to within approximately 1 cm of the top.

Following collection, samples were refrigerated (not frozen) and stored in a chilled, dark container with ice packs to maintain temperatures below 10°C. All samples were labelled with the date and time of collection and transported to the laboratory within 24 hours.



Figure1. Staff Room



Figure 2. Health Room



Figure 3. Hall Kitchen

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Analysis of Results

A summary of the August 2026 test results, together with comparisons against monitoring results from October 2025 to July 2026, and relevant New Zealand, WHO, and US EPA drinking water standards, is presented in the accompany tables. The original Hill Laboratories reports are appended to this report.

The August 2026 laboratory results indicate that no *Escherichia coli (E. coli)* was detetced in any of the samples, with results of <1 MPN/100 mL at all three sampling locations. This confirms that there was no microbiological evidence of faecal contamination in the samples collected and indicates that the water treatment and distribution system continued to operate effectively at the time of sampling.

Turbidity ranged from 0.081 to 0.213 NTU. Results were 0.202 NTU in the Staff Room, 0.213 NTU in the Health Room and 0.081 NTU in the Hall Kitchen. These values were slightly higher than the July results, when turbidity was below 0.05 NTU at all three locations, but remained well below the aesthetic guideline value of 5 NTU.

The samples were collected approximately 10.5 hours after a significant rainfall event had ended, during which approximately 54 mm of rainfall was recorded. As the drinking water supply is sourced from roof-collected rainwater, the recent rainfall and associated roof runoff may have contributed to the slight increase in turbidity observed in August. Despite this, turbidity remained low and no *E. coli* was detected at any sampling location.

Electrical conductivity remained low, ranging from 2.9 to 3.1 mS/m, with corresponding total dissolved salts concentrations of approximately 19.6–20.4 mg/L. Total hardness ranged from 2.86 to 2.95 mg/L as $CaCO_3$, while alkalinity ranged from 2.56 to 2.96 mg/L as $CaCO_3$. These results remain consistent with the very soft, low-mineral nature of the rainwater supply.

Concentrations of the analysed metals, including arsenic, boron, copper, iron, lead, manganese and zinc, remained well below the relevant New Zealand Drinking Water Standards and international guideline values. Similarly, chloride, nitrate-nitrogen and sulphate concentrations were all significantly below their respective guideline limits.

The measured pH ranged from 6.1 to 6.3 across the three sampling locations, representing a slight increase compared with the previous few months (Figure 4). However, pH remained below the aesthetic guideline range of 7.0–8.5. The slightly acidic pH is consistent with the nature of the rainwater supply. As pH is an aesthetic parameter, the results do not indicate a public health concern. The main potential implication of persistently low pH is increased long-term corrosivity towards plumbing materials.

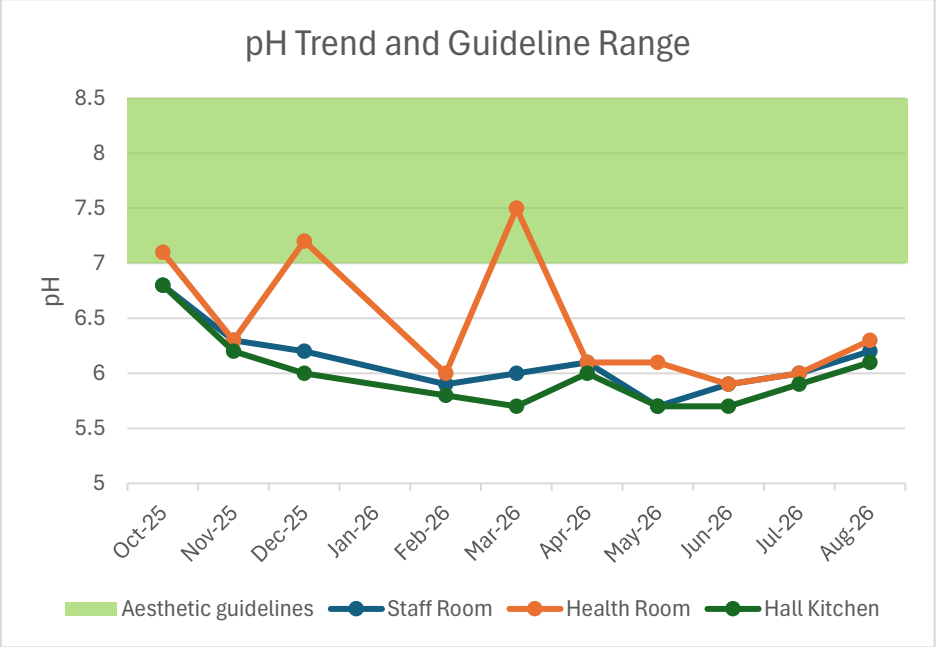


Figure 4. pH Trend with Aesthetic Guideline Range (Oct 2025 – Aug 2026)

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Overall, the August 2026 monitoring results demonstrate that drinking water quality remained satisfactory across all three sampling locations. Despite the significant rainfall event preceding sampling, no microbiological contamination was detected and turbidity remained low. All measured chemical parameters remained within the applicable drinking water criteria. No corrective actions are required at this time, and routine monitoring should continue.

Thanks,

Dr. Na Zhang (she/her)

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Table 1. Summary of Tap Water Quality Results for October–December 2025 with Comparison to New Zealand, WHO, and US EPA Drinking Water Standards

Parameters	Sample Name: / Lab Number:	October 2025			November 2025			December 2025			Drinking Water Standards		
		Staff Room	Health Room	Hall Kitchen	Staff Room	Health Room	Hall Kitchen	Staff Room	Health Room	Hall Kitchen	NZ Maximum Acceptable Value (MAV)[a]	WHO Limit	US EPA Limit
	Lab Number:	4010395	4010401	4010402	4042267	4042271	4042265	4058529	4058516	4058517			
Escherichia coli	MPN / 100mL	< 1	<1	< 1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Turbidity	NTU	0.37	0.41	0.12	0.20	0.21	0.11	0.230	0.277	0.128	≤5 (aesthetic)[b]	<5	<1 (recommended)
pH	pH Units	6.8	7.1	6.8	6.3	6.3	6.2	6.2	7.2	6.0	7.0–8.5 (aesthetic)[b]	6.5–8.5	6.5–8.5
Total Alkalinity	g/m^3 as $CaCO_3$	11	13.9	10.6	3.6	3.6	3.4	3.58	6.96	3.18	-	-	-
Free Carbon Dioxide	g/m^3 at 25°C	3.3	2.1	3.4	4.0	3.8	4.2	4.9	<1.0	6.1	-	-	-
Total Hardness	g/m^3 as $CaCO_3$	14.5	16	14.5	2.3	2.5	3.2	1.79	1.79	2.20	≤200 (aesthetic)[b]	<500	<500
Electrical Conductivity (EC)	mS/m	6.4	7.5	6.3	1.6	1.8	1.6	1.0	1.7	1.0	-		
Electrical Conductivity (EC)	µS/cm	64	75	63	16	18	16	10	17	10	-	<1500	<2500
Approx Total Dissolved Salts	g/m^3	43	50	42	11	12	11	6.84	11.69	6.93	≤1000 (aesthetic)[b]	<1000	<500 (aesthetic)[b]
Total Arsenic	g/m^3	< 0.0011	<0.0011	< 0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.01	<0.01	<0.01
Total Boron	g/m^3	< 0.053	<0.053	< 0.053	<0.053	<0.053	<0.053	<0.053	<0.053	<0.053	<2.4	<2.4	-
Total Calcium	g/m^3	4.4	4.6	4.4	0.57	0.60	0.91	0.438	0.43	0.613	-	-	-
Total Copper	g/m^3	0.037	0.121	0.0038	0.061	0.141	0.0037	0.0694	0.128	0.00424	<2	<2	<1.3
Total Iron	g/m^3	< 0.021	0.023	< 0.021	<0.021	<0.021	<0.021	<0.021	<0.021	<0.021	≤0.3 (aesthetic)[b]	<0.3	<0.3
Total Lead	g/m^3	0.00062	0.00118	0.00028	0.00083	0.00088	0.00061	0.000966	0.001078	0.000604	<0.01	<0.01	<0.015
Total Magnesium	g/m^3	0.87	1.12	0.86	0.22	0.23	0.21	0.170	0.173	0.163	-	-	-
Total Manganese	g/m^3	0.0023	0.0035	0.0012	0.00161	0.00157	0.00093	0.00196	0.00183	0.00151	0.04 (Staining); ≤0.1(Taste)	<0.4	<0.05 (aesthetic)[b]
Total Potassium	g/m^3	0.53	0.53	0.53	0.187	0.187	0.172	0.137	0.138	0.144	-	-	-
Total Sodium	g/m^3	5.6	5.7	5.6	1.62	1.59	1.52	1.290	1.278	1.298	≤200 (aesthetic[b]	<200	<20 (health advisory)[c]

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Total Zinc	g/m^3	0.21	0.189	0.154	0.49	0.48	0.175	0.335	0.320	0.189	≤1.5 (aesthetic)[b]	<3	<5
Chloride	g/m^3	9	9.6	9	2.6	2.6	2.7	2.53	2.29	2.16	≤250 (aesthetic)[b]	<250	<250
Nitrate-N	g/m^3	0.07	0.07	0.08	0.09	0.09	0.11	0.147	0.126	0.171	<11.3	<11.3	<10
Sulphate	g/m^3	4.3	4.6	4.3	0.8	0.8	0.8	0.76	0.77	0.69	≤250 (aesthetic)[b]	<250	<250

a Taken from the 'Water Services (Drinking Water Standards for New Zealand) Regulations 2022'.
b Taken from 'Aesthetic Value for Drinking Water Notice 2022' issued by the Water Services Regulator ("Taumata Arowai")
c Refer to non-health-related parameters — things that affect the taste, smell, colour, or appearance of water but don't pose a health risk.

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Table 2. Summary of Tap Water Quality Results for February–April 2026, with Comparison to New Zealand, WHO, and US EPA Drinking Water Standards

Parameters	Sample Name:	February 2026			March 2026			April 2026			Drinking Water Standards		
		Staff Room	Health Room	Hall Kitchen	Staff Room	Health Room	Staff Room	Staff Room	Health Room	Hall Kitchen	NZ Maximum Acceptable Value (MAV)[a]	WHO Limit	US EPA Limit
	Lab Number:	4111982	4111989	4111983	4158554	4158560	4158556	4189986	4189991	4189991			
Escherichia coli	MPN / 100mL	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Turbidity	NTU	0.22	0.19	0.09	0.21	0.29	0.10	0.22	0.19	0.17	≤5 (aesthetic)[b]	<5	<1 (recommended)
pH	pH Units	5.9	6.0	5.8	6.0	7.5	5.7	6.1	6.1	6.0	7.0–8.5 (aesthetic)[b]	6.5–8.5	6.5–8.5
Total Alkalinity	g/m^3 as $CaCO_3$	2.6	2.6	2.4	2.20	6.6	2.0	2.2	3.2	1.8	-	-	-
Free Carbon Dioxide	g/m^3 at 25°C	7	5.7	7.7	4.8	<1.0	7.2	3.4	4.6	3.7	-	-	-
Total Hardness	g/m^3 as $CaCO_3$	2.70	2.60	2.90	2.71	2.78	2.8	2.04	2.09	2.07	≤200 (aesthetic)[b]	<500	<500
Electrical Conductivity (EC)	mS/m	2.6	2.8	2.7	2.5	3.2	2.6	2.3	2.3	2.5	-		
Electrical Conductivity (EC)	µS/cm	26	28	27	25	32	26	23	23	25	-	<1500	<2500
Approx Total Dissolved Salts	g/m^3	17	18	18	16.75	21.33	18	15.61	15.48	16.43	≤1000 (aesthetic)[b]	<1000	<500 (aesthetic)[b]
Total Arsenic	g/m^3	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.01	<0.01	<0.01
Total Boron	g/m^3	<0.053	<0.053	<0.053	<0.053	<0.053	<0.053	<0.053	<0.053	<0.053	<2.4	<2.4	-
Total Calcium	g/m^3	0.36	0.36	0.49	0.427	0.446	0.49	0.272	0.293	0.325	-	-	-
Total Copper	g/m^3	0.078	0.130	0.0044	0.0663	0.0875	0.0063	0.0582	0.0874	0.00643	<2	<2	<1.3
Total Iron	g/m^3	<0.021	<0.021	<0.021	<0.021	<0.021	<0.021	<0.021	<0.021	<0.021	≤0.3 (aesthetic)[b]	<0.3	<0.3
Total Lead	g/m^3	0.001280	0.001330	0.00046	0.001027	0.00092	0.00074	0.00130	0.00137	0.00103	<0.01	<0.01	<0.015
Total Magnesium	g/m^3	0.43	0.42	0.42	0.40	0.405	0.38	0.330	0.329	0.306	-	-	-
Total Manganese	g/m^3	0.00174	0.00198	0.0026	0.00176	0.00177	0.0028	0.00076	0.00087	0.00167	0.04 (Staining); ≤0.1(Taste)	<0.4	<0.05 (aesthetic)[b]
Total Potassium	g/m^3	0.25	0.23	0.24	0.237	0.24	0.23	0.168	0.173	0.170	-	-	-
Total Sodium	g/m^3	3.6	3.4	3.6	3.20	3.22	3.2	3.36	3.46	3.45	≤200 (aesthetic[b]	<200	<20 (health advisory)[c]

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Total Zinc	g/m^3	0.44	0.45	0.36	0.387	0.399	0.35	0.382	0.371	0.310	≤1.5 (aesthetic)[b]	<3	<5
Chloride	g/m^3	6.0	5.6	6.0	5.62	5.6	5.8	5.48	5.18	5.51	≤250 (aesthetic)[b]	<250	<250
Nitrate-N	g/m^3	0.15	0.15	0.16	0.170	0.17	0.2	0.091	0.085	0.092	<11.3	<11.3	<10
Sulphate	g/m^3	1.2	1.2	1.2	1.12	1.08	1.1	0.88	0.85	0.88	≤250 (aesthetic)[b]	<250	<250

a Taken from the 'Water Services (Drinking Water Standards for New Zealand) Regulations 2022'.
b Taken from 'Aesthetic Value for Drinking Water Notice 2022' issued by the Water Services Regulator ("Taumata Arowai")
c Refer to non-health-related parameters — things that affect the taste, smell, colour, or appearance of water but don't pose a health risk.

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Table 3. Summary of Tap Water Quality Results for May–August 2026, with Comparison to New Zealand, WHO, and US EPA Drinking Water Standards

Parameters	Sample Name:	May 2026			June 2026			July 2026			August 2026			Drinking Water Standards		
		Staff Room	Health Room	Hall Kitchen	Staff Room	Staff Room	Staff Room	Staff Room	Health Room	Hall Kitchen	Staff Room	Health Room	Hall Kitchen	NZ Maximum Acceptable Value (MAV)[a]	WHO Limit	US EPA Limit
	Lab Number:	4228748	4228755	4228765	4254466	4254468	4254473	4272960	4272954	4272959	4288523	4288512	4288515			
Escherichia coli	MPN / 100mL	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Turbidity	NTU	0.15	0.17	0.073	<0.05	0.329	<0.05	<0.05	<0.05	<0.05	0.202	0.213	0.081	≤5 (aesthetic)[b]	<5	<1 (recommended)
pH	pH Units	5.7	6.1	5.7	5.9	5.9	5.7	6.0	6.0	5.9	6.2	6.3	6.1	7.0–8.5 (aesthetic)[b]	6.5–8.5	6.5–8.5
Total Alkalinity	g/m^3 as $CaCO_3$	2.2	2.8	2.2	2.40	2.40	2.20	2.60	2.60	2.40	2.96	2.96	2.56	-	-	-
Free Carbon Dioxide	g/m^3 at 25°C	8.1	4.1	8.7	5.6	6.1	8.3	5.3	5.4	5.4	3.7	3.2	3.9	-	-	-
Total Hardness	g/m^3 as $CaCO_3$	1.70	1.70	1.74	2.97	2.86	2.95	2.60	2.60	2.60	2.94	2.95	2.86	≤200 (aesthetic)[b]	<500	<500
Electrical Conductivity (EC)	mS/m	1.5	1.6	1.5	3.2	3.2	3.2	2.6	2.5	2.6	2.9	3.1	2.9	-		
Electrical Conductivity (EC)	µS/cm	15	16	15	32	32	32	26	25	26	29	31	29	-	<1500	<2500
Approx Total Dissolved Salts	g/m^3	10	10	9.83	21.49	21.18	21.49	17	17	18	19.64	20.44	19.70	≤1000 (aesthetic)[b]	<1000	<500 (aesthetic)[b]
Total Arsenic	g/m^3	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.01	<0.01	<0.01
Total Boron	g/m^3	<0.053	<0.053	<0.053	<0.053	<0.053	<0.053	<0.053	<0.053	<0.053	<0.053	<0.053	<0.053	<2.4	<2.4	-
Total Calcium	g/m^3	0.26	0.27	0.298	0.377	0.359	0.401	0.36	0.37	0.37	0.415	0.420	0.420	-	-	-
Total Copper	g/m^3	0.052	0.060	0.00365	0.0430	0.0538	0.00399	0.0470	0.0570	0.0038	0.0393	0.0617	0.00343	<2	<2	<1.3
Total Iron	g/m^3	<0.021	<0.021	<0.021	<0.021	<0.021	<0.021	<0.021	<0.021	<0.021	<0.021	<0.021	<0.021	≤0.3 (aesthetic)[b]	<0.3	<0.3
Total Lead	g/m^3	0.00096	0.00084	0.00033	0.00106	0.00100	0.00055	0.00102	0.00090	0.00072	0.00089	0.00082	0.00056	<0.01	<0.01	<0.015
Total Magnesium	g/m^3	0.25	0.26	0.241	0.492	0.476	0.472	0.41	0.42	0.40	0.462	0.461	0.440	-	-	-
Total Manganese	g/m^3	0.00088	0.00108	0.00146	0.00080	0.00073	0.00173	0.00063	0.00058	0.00140	0.00072	0.00069	0.00135	0.04 (Staining); ≤0.1(Taste)	<0.4	<0.05 (aesthetic)[b]
Total Potassium	g/m^3	0.117	0.118	0.118	0.187	0.193	0.192	0.162	0.165	0.170	0.200	0.199	0.193	-	-	-
Total Sodium	g/m^3	2.0	1.98	2.01	3.96	3.93	3.98	3.4	3.3	3.4	3.88	3.85	3.77	≤200 (aesthetic[b]	<200	<20 (health advisory)[c]
Total Zinc	g/m^3	0.28	0.29	0.274	0.661	0.656	0.563	0.660	0.670	0.550	0.731	0.747	0.610	≤1.5 (aesthetic)[b]	<3	<5

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Chloride	g/m^3	3.4	3.4	3.37	7.01	6.99	7.04	5.90	5.70	5.90	6.71	6.74	6.72	≤250 (aesthetic)[b]	<250	<250
Nitrate-N	g/m^3	0.13	0.13	0.12	0.125	0.125	0.128	0.11	0.11	0.12	0.113	0.114	0.116	<11.3	<11.3	<10
Sulphate	g/m^3	0.80	0.80	0.74	1.20	1.19	1.20	1.10	1.10	1.10	1.17	1.19	1.19	≤250 (aesthetic)[b]	<250	<250

a Taken from the 'Water Services (Drinking Water Standards for New Zealand) Regulations 2022'.
b Taken from 'Aesthetic Value for Drinking Water Notice 2022' issued by the Water Services Regulator ("Taumata Arowai")
c Refer to non-health-related parameters — things that affect the taste, smell, colour, or appearance of water but don't pose a health risk.

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Certificate of Analysis

Client:	Waste Management NZ Limited	**Lab No:**	4288523 DWMAVUPv1
Contact:	Na Zhang C/- Waste Management NZ Limited PO Box 228 Silverdale Auckland 0944	**Date Received:**	14-Aug-2026
		Date Reported:	18-Aug-2026
		Quote No:	141146
		Order No:	3905349
		Client Reference:	038 DrinkingWater-DFS-SR - August 2026
		Add. Client Ref:	Routine Water + E. coli
		Submitted By:	Na Zhang

Sample Type: Drinking Water for DWSNZ Compliance

		Sample Name:	DrinkingWater-August 2026-SR 13-Aug-2026 1:15 pm	**Maximum Acceptable Value**	**Outside Limits**
		Lab Number:	4288523.1		
Routine Water + E.coli profile Kit					
Escherichia coli	MPN / 100mL		< 1	< 1	No
Routine Water Profile					
Turbidity	NTU		0.202 ± 0.039	-	-
pH	pH Units		6.2 ± 0.2	-	-
Total Alkalinity	g/m³ as $CaCO_3$		2.96 ± 0.68	-	-
Free Carbon Dioxide	g/m³ at 25°C		3.7 ± 2.0	-	-
Total Hardness	g/m³ as $CaCO_3$		2.94 ± 0.19	-	-
Electrical Conductivity (EC)	mS/m		2.9 ± 0.1	-	-
Electrical Conductivity (EC)	µS/cm		29 ± 1	-	-
Approx Total Dissolved Salts	g/m³		19.64 ± 0.57	-	-
Total Arsenic	g/m³		< 0.0011 ± 0.00074	0.01	No
Total Boron	g/m³		< 0.053 ± 0.036	2.4	No
Total Calcium	g/m³		0.415 ± 0.039	-	-
Total Copper	g/m³		0.0393 ± 0.0040	2	No
Total Iron	g/m³		< 0.021 ± 0.014	-	-
Total Lead	g/m³		0.000894 ± 0.000091	0.01	No
Total Magnesium	g/m³		0.462 ± 0.040	-	-
Total Manganese	g/m³		0.00072 ± 0.00036	0.4	No
Total Potassium	g/m³		0.200 ± 0.038	-	-
Total Sodium	g/m³		3.88 ± 0.24	-	-
Total Zinc	g/m³		0.731 ± 0.059	-	-
Chloride	g/m³		6.71 ± 0.53	-	-
Nitrate-N	g/m³		0.113 ± 0.043	11.3	No
Sulphate	g/m³		1.17 ± 0.35	-	-

This Laboratory is accredited by International Accreditation New Zealand (IANZ), which represents New Zealand in the International Laboratory Accreditation Cooperation (ILAC). Through the ILAC Mutual Recognition Arrangement (ILAC-MRA) this accreditation is internationally recognised.
The tests reported herein have been performed in accordance with the terms of accreditation, with the exception of tests marked * or any comments and interpretations, which are not accredited.

Note: The Maximum Acceptable Values (MAV) are taken from the 'Water Services (Drinking Water Standards for New Zealand) Regulations 2022', published under the authority of the New Zealand Government-2022. Copies of this publication are available from: https://www.legislation.govt.nz/regulation/public/2022/0168/latest/whole.html

The standards set limits for the concentration of determinands in drinking water. The Maximum Acceptable Values (MAVs) for any determinand must not be exceeded at any time.

Under Section 73 (2) of the Water Services Act 2021, the laboratory is required to report the results of any analysis or test carried out (for the purposes of testing for compliance with the Drinking Water Standards for New Zealand 2022) that indicates any non-compliance (transgression) with the Maximum Acceptable Values (MAVs) to Taumata Arowai, the water services regulator for Aotearoa.

Taumata Arowai also publishes 'Aesthetic Values for Drinking Water Notice 2022' which specifies or provides minimum or maximum values for substances and other characteristics that relate to the acceptability of drinking water to consumers (such as appearance, taste or odour). This report compares the results obtained with the Maximum Acceptable Values only.

The reported uncertainty is an expanded uncertainty with a level of confidence of approximately 95 percent (i.e. two standard deviations, calculated using a coverage factor of 2). Reported uncertainties are calculated from the performance of typical matrices, and do not include variation due to sampling. For further information on uncertainty of measurement at Hill Laboratories, refer to the technical note on our website: www.hill-laboratories.com/files/Intro_To_UOM.pdf, or contact the laboratory.

Note that the units: g/m^3 are the same as mg/L and ppm.

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively simple matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. A detection limit range indicates the lowest and highest detection limits in the associated suite of analytes. A full listing of compounds and detection limits are available from the laboratory upon request. Unless otherwise indicated, analyses were performed at Hill Labs, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Drinking Water for DWSNZ Compliance

Test	Method Description	Default Detection Limit	Sample No
Routine Water Profile		-	1
Filtration, Unpreserved	Sample filtration through 0.45µm membrane filter.	-	1
Total Digestion	Nitric acid digestion. APHA 3030 E (modified) : Online Edition.	-	1
Turbidity	Analysis by Mantech PC-1000-1118 Turbidity meter. APHA 2130 B (modified) : Online Edition.	0.05 NTU	1
pH	pH meter. APHA 4500-H^+ B (modified) : Online Edition. Note: It is not possible to achieve the APHA Maximum Storage Recommendation for this test (15 min) when samples are analysed upon receipt at the laboratory, and not in the field. Samples and Standards are analysed at an equivalent laboratory temperature (typically 18 to 22 °C). Temperature compensation is used.	0.1 pH Units	1
Total Alkalinity	Titration to pH 4.5 (M-alkalinity), autotitrator. APHA 2320 B (modified for Alkalinity <20) : Online Edition.	1.0 g/m^3 as $CaCO_3$	1
Free Carbon Dioxide	Calculation: from alkalinity and pH, valid where TDS is not >500 mg/L and alkalinity is almost entirely due to hydroxides, carbonates or bicarbonates. APHA 4500-CO_2 D : Online Edition.	1.0 g/m^3 at 25°C	1
Total Hardness	Calculation from Total Calcium and Total Magnesium. APHA 2340 B : Online Edition.	1.0 g/m^3 as $CaCO_3$	1
Electrical Conductivity (EC)	Conductivity meter, 25°C. APHA 2510 B : Online Edition.	0.1 mS/m	1
Electrical Conductivity (EC)	Conductivity meter, 25°C. APHA 2510 B : Online Edition.	1 µS/cm	1
Approx Total Dissolved Salts	Calculation: from Electrical Conductivity.	2 g/m^3	1
Total Arsenic	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.0011 g/m^3	1
Total Boron	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.053 g/m^3	1
Total Calcium	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.053 g/m^3	1
Total Copper	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.00053 g/m^3	1
Total Iron	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.021 g/m^3	1
Total Lead	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.00011 g/m^3	1
Total Magnesium	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.021 g/m^3	1
Total Manganese	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.00053 g/m^3	1
Total Potassium	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.053 g/m^3	1

Sample Type: Drinking Water for DWSNZ Compliance			
Test	**Method Description**	**Default Detection Limit**	**Sample No**
Total Sodium	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.021 g/m³	1
Total Zinc	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.0011 g/m³	1
Chloride	Filtered sample. Ion Chromatography. APHA 4110 B (modified) : Online Edition.	0.5 g/m³	1
Nitrate-N	Filtered sample. Ion Chromatography. APHA 4110 B (modified) : Online Edition.	0.05 g/m³	1
Sulphate	Filtered sample. Ion Chromatography. APHA 4110 B (modified) : Online Edition.	0.5 g/m³	1
Escherichia coli	MPN count using Colilert (Incubated at 35°C for 24 hours) and 97 wells. APHA 9223 B : Online Edition.	1 MPN / 100mL	1

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Testing was completed between 14-Aug-2026 and 18-Aug-2026. For completion dates of individual analyses please contact the laboratory.

Samples are held at the laboratory after reporting for a length of time based on the stability of the samples and analytes being tested (considering any preservation used), and the storage space available. Once the storage period is completed, the samples are discarded unless otherwise agreed with the customer. Extended storage times may incur additional charges.

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Certificate of Analysis

Client:	Waste Management NZ Limited	**Lab No:**	4288512 DWMAVUPv1
Contact:	Na Zhang C/- Waste Management NZ Limited PO Box 228 Silverdale Auckland 0944	**Date Received:**	14-Aug-2026
		Date Reported:	18-Aug-2026
		Quote No:	141146
		Order No:	3905349
		Client Reference:	039 Drinking Water - DFS - August 2026 - HR
		Add. Client Ref:	Routine Water + E. coli
		Submitted By:	Na Zhang

Sample Type: Drinking Water for DWSNZ Compliance

		Sample Name:	Drinking Water - August 2026 - HR 13-Aug-2026 1:25 pm	**Maximum Acceptable Value**	**Outside Limits**
		Lab Number:	4288512.1		
Routine Water + E.coli profile Kit					
Escherichia coli	MPN / 100mL		< 1	< 1	No
Routine Water Profile					
Turbidity	NTU		0.213 ± 0.040	-	-
pH	pH Units		6.3 ± 0.2	-	-
Total Alkalinity	g/m³ as $CaCO_3$		2.96 ± 0.68	-	-
Free Carbon Dioxide	g/m³ at 25°C		3.2 ± 1.8	-	-
Total Hardness	g/m³ as $CaCO_3$		2.95 ± 0.19	-	-
Electrical Conductivity (EC)	mS/m		3.1 ± 0.1	-	-
Electrical Conductivity (EC)	µS/cm		31 ± 1	-	-
Approx Total Dissolved Salts	g/m³		20.44 ± 0.58	-	-
Total Arsenic	g/m³		< 0.0011 ± 0.00074	0.01	No
Total Boron	g/m³		< 0.053 ± 0.036	2.4	No
Total Calcium	g/m³		0.420 ± 0.040	-	-
Total Copper	g/m³		0.0617 ± 0.0062	2	No
Total Iron	g/m³		< 0.021 ± 0.014	-	-
Total Lead	g/m³		0.000820 ± 0.000089	0.01	No
Total Magnesium	g/m³		0.461 ± 0.040	-	-
Total Manganese	g/m³		0.00069 ± 0.00036	0.4	No
Total Potassium	g/m³		0.199 ± 0.038	-	-
Total Sodium	g/m³		3.85 ± 0.24	-	-
Total Zinc	g/m³		0.747 ± 0.060	-	-
Chloride	g/m³		6.74 ± 0.53	-	-
Nitrate-N	g/m³		0.114 ± 0.043	11.3	No
Sulphate	g/m³		1.19 ± 0.35	-	-

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The tests reported herein have been performed in accordance with the terms of accreditation, with the exception of tests marked * or any comments and interpretations, which are not accredited.

Note: The Maximum Acceptable Values (MAV) are taken from the 'Water Services (Drinking Water Standards for New Zealand) Regulations 2022', published under the authority of the New Zealand Government-2022. Copies of this publication are available from: https://www.legislation.govt.nz/regulation/public/2022/0168/latest/whole.html

The standards set limits for the concentration of determinands in drinking water. The Maximum Acceptable Values (MAVs) for any determinand must not be exceeded at any time.

Under Section 73 (2) of the Water Services Act 2021, the laboratory is required to report the results of any analysis or test carried out (for the purposes of testing for compliance with the Drinking Water Standards for New Zealand 2022) that indicates any non-compliance (transgression) with the Maximum Acceptable Values (MAVs) to Taumata Arowai, the water services regulator for Aotearoa.

Taumata Arowai also publishes 'Aesthetic Values for Drinking Water Notice 2022' which specifies or provides minimum or maximum values for substances and other characteristics that relate to the acceptability of drinking water to consumers (such as appearance, taste or odour). This report compares the results obtained with the Maximum Acceptable Values only.

The reported uncertainty is an expanded uncertainty with a level of confidence of approximately 95 percent (i.e. two standard deviations, calculated using a coverage factor of 2). Reported uncertainties are calculated from the performance of typical matrices, and do not include variation due to sampling. For further information on uncertainty of measurement at Hill Laboratories, refer to the technical note on our website: www.hill-laboratories.com/files/Intro_To_UOM.pdf, or contact the laboratory.

Note that the units: g/m^3 are the same as mg/L and ppm.

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively simple matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. A detection limit range indicates the lowest and highest detection limits in the associated suite of analytes. A full listing of compounds and detection limits are available from the laboratory upon request. Unless otherwise indicated, analyses were performed at Hill Labs, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Drinking Water for DWSNZ Compliance

Test	Method Description	Default Detection Limit	Sample No
Routine Water Profile		-	1
Filtration, Unpreserved	Sample filtration through 0.45µm membrane filter.	-	1
Total Digestion	Nitric acid digestion. APHA 3030 E (modified) : Online Edition.	-	1
Turbidity	Analysis by Mantech PC-1000-1118 Turbidity meter. APHA 2130 B (modified) : Online Edition.	0.05 NTU	1
pH	pH meter. APHA 4500-H^+ B (modified) : Online Edition. Note: It is not possible to achieve the APHA Maximum Storage Recommendation for this test (15 min) when samples are analysed upon receipt at the laboratory, and not in the field. Samples and Standards are analysed at an equivalent laboratory temperature (typically 18 to 22 °C). Temperature compensation is used.	0.1 pH Units	1
Total Alkalinity	Titration to pH 4.5 (M-alkalinity), autotitrator. APHA 2320 B (modified for Alkalinity <20) : Online Edition.	1.0 g/m^3 as $CaCO_3$	1
Free Carbon Dioxide	Calculation: from alkalinity and pH, valid where TDS is not >500 mg/L and alkalinity is almost entirely due to hydroxides, carbonates or bicarbonates. APHA 4500-CO_2 D : Online Edition.	1.0 g/m^3 at 25°C	1
Total Hardness	Calculation from Total Calcium and Total Magnesium. APHA 2340 B : Online Edition.	1.0 g/m^3 as $CaCO_3$	1
Electrical Conductivity (EC)	Conductivity meter, 25°C. APHA 2510 B : Online Edition.	0.1 mS/m	1
Electrical Conductivity (EC)	Conductivity meter, 25°C. APHA 2510 B : Online Edition.	1 µS/cm	1
Approx Total Dissolved Salts	Calculation: from Electrical Conductivity.	2 g/m^3	1
Total Arsenic	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.0011 g/m^3	1
Total Boron	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.053 g/m^3	1
Total Calcium	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.053 g/m^3	1
Total Copper	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.00053 g/m^3	1
Total Iron	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.021 g/m^3	1
Total Lead	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.00011 g/m^3	1
Total Magnesium	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.021 g/m^3	1
Total Manganese	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.00053 g/m^3	1
Total Potassium	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.053 g/m^3	1

Sample Type: Drinking Water for DWSNZ Compliance			
Test	**Method Description**	**Default Detection Limit**	**Sample No**
Total Sodium	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.021 g/m³	1
Total Zinc	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.0011 g/m³	1
Chloride	Filtered sample. Ion Chromatography. APHA 4110 B (modified) : Online Edition.	0.5 g/m³	1
Nitrate-N	Filtered sample. Ion Chromatography. APHA 4110 B (modified) : Online Edition.	0.05 g/m³	1
Sulphate	Filtered sample. Ion Chromatography. APHA 4110 B (modified) : Online Edition.	0.5 g/m³	1
Escherichia coli	MPN count using Colilert (Incubated at 35°C for 24 hours) and 97 wells. APHA 9223 B : Online Edition.	1 MPN / 100mL	1

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

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Certificate of Analysis

Client:	Waste Management NZ Limited	**Lab No:**	4288515 DWMAVUPv1
Contact:	Na Zhang C/- Waste Management NZ Limited PO Box 228 Silverdale Auckland 0944	**Date Received:**	14-Aug-2026
		Date Reported:	18-Aug-2026
		Quote No:	141146
		Order No:	3905349
		Client Reference:	040 Drinking Water - DFS - August 2026 - HK
		Add. Client Ref:	Routine Water + E. coli
		Submitted By:	Na Zhang

Sample Type: Drinking Water for DWSNZ Compliance

		Sample Name:	Drinking Water - August 2026 - HK 13-Aug-2026 1:35 pm	**Maximum Acceptable Value**	**Outside Limits**
		Lab Number:	4288515.1		
Routine Water + E.coli profile Kit					
Escherichia coli	MPN / 100mL		< 1	< 1	No
Routine Water Profile					
Turbidity	NTU		0.081 ± 0.034	-	-
pH	pH Units		6.1 ± 0.2	-	-
Total Alkalinity	g/m³ as $CaCO_3$		2.56 ± 0.67	-	-
Free Carbon Dioxide	g/m³ at 25°C		3.9 ± 2.2	-	-
Total Hardness	g/m³ as $CaCO_3$		2.86 ± 0.19	-	-
Electrical Conductivity (EC)	mS/m		2.9 ± 0.1	-	-
Electrical Conductivity (EC)	µS/cm		29 ± 1	-	-
Approx Total Dissolved Salts	g/m³		19.70 ± 0.57	-	-
Total Arsenic	g/m³		< 0.0011 ± 0.00074	0.01	No
Total Boron	g/m³		< 0.053 ± 0.036	2.4	No
Total Calcium	g/m³		0.420 ± 0.040	-	-
Total Copper	g/m³		0.00343 ± 0.00049	2	No
Total Iron	g/m³		< 0.021 ± 0.014	-	-
Total Lead	g/m³		0.000559 ± 0.000081	0.01	No
Total Magnesium	g/m³		0.440 ± 0.038	-	-
Total Manganese	g/m³		0.00135 ± 0.00038	0.4	No
Total Potassium	g/m³		0.193 ± 0.038	-	-
Total Sodium	g/m³		3.77 ± 0.23	-	-
Total Zinc	g/m³		0.610 ± 0.049	-	-
Chloride	g/m³		6.72 ± 0.53	-	-
Nitrate-N	g/m³		0.116 ± 0.043	11.3	No
Sulphate	g/m³		1.19 ± 0.35	-	-

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Total Alkalinity	Titration to pH 4.5 (M-alkalinity), autotitrator. APHA 2320 B (modified for Alkalinity <20) : Online Edition.	1.0 g/m^3 as $CaCO_3$	1
Free Carbon Dioxide	Calculation: from alkalinity and pH, valid where TDS is not >500 mg/L and alkalinity is almost entirely due to hydroxides, carbonates or bicarbonates. APHA 4500-CO_2 D : Online Edition.	1.0 g/m^3 at 25°C	1
Total Hardness	Calculation from Total Calcium and Total Magnesium. APHA 2340 B : Online Edition.	1.0 g/m^3 as $CaCO_3$	1
Electrical Conductivity (EC)	Conductivity meter, 25°C. APHA 2510 B : Online Edition.	0.1 mS/m	1
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Sample Type: Drinking Water for DWSNZ Compliance			
Test	**Method Description**	**Default Detection Limit**	**Sample No**
Total Sodium	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.021 g/m³	1
Total Zinc	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.0011 g/m³	1
Chloride	Filtered sample. Ion Chromatography. APHA 4110 B (modified) : Online Edition.	0.5 g/m³	1
Nitrate-N	Filtered sample. Ion Chromatography. APHA 4110 B (modified) : Online Edition.	0.05 g/m³	1
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