

## Certificate of Analysis

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<b>Client:</b>	Pigeon Rock Water Supply Company Limited	<b>Lab No:</b>	4220160	DWMAVUPv1
<b>Contact:</b>	John Carr C/- Pigeon Rock Water Supply Company Limited 1 Pigeon Rock Road Cornish Point Cromwell 9384	<b>Date Received:</b>	21-May-2026	
		<b>Date Reported:</b>	26-May-2026	
		<b>Quote No:</b>		
		<b>Order No:</b>		
		<b>Client Reference:</b>		
		<b>Submitted By:</b>	Jason Oliphant	

### Sample Type: Drinking Water for DWSNZ Compliance

Sample Name:	PRWSC 20-May-2026 3:00 pm	Maximum Acceptable Value	Outside Limits
Lab Number:	4220160.1		
Routine Water + E.coli profile Kit			
Escherichia coli	MPN / 100mL	< 1	No
Routine Water Profile			
Turbidity	NTU	< 0.05 ± 0.034	-
pH	pH Units	7.9 ± 0.2	-
Total Alkalinity	g/m <sup>3</sup> as CaCO <sub>3</sub>	286 ± 12	-
Free Carbon Dioxide	g/m <sup>3</sup> at 25°C	7.7 ± 3.6	-
Total Hardness	g/m <sup>3</sup> as CaCO <sub>3</sub>	297 ± 12	-
Electrical Conductivity (EC)	mS/m	63.4 ± 1.3	-
Electrical Conductivity (EC)	µS/cm	634 ± 13	-
Approx Total Dissolved Salts	g/m <sup>3</sup>	425.1 ± 8.6	-
Total Arsenic	g/m <sup>3</sup>	< 0.0011 ± 0.00074	0.01
Total Boron	g/m <sup>3</sup>	< 0.053 ± 0.036	2.4
Total Calcium	g/m <sup>3</sup>	75.0 ± 3.0	-
Total Copper	g/m <sup>3</sup>	0.00079 ± 0.00036	2
Total Iron	g/m <sup>3</sup>	0.161 ± 0.027	-
Total Lead	g/m <sup>3</sup>	0.000680 ± 0.000084	0.01
Total Magnesium	g/m <sup>3</sup>	26.6 ± 2.2	-
Total Manganese	g/m <sup>3</sup>	0.00461 ± 0.00058	0.4
Total Potassium	g/m <sup>3</sup>	2.23 ± 0.14	-
Total Sodium	g/m <sup>3</sup>	19.3 ± 1.2	-
Total Zinc	g/m <sup>3</sup>	0.0559 ± 0.0046	-
Chloride	g/m <sup>3</sup>	14.33 ± 0.77	-
Nitrate-N	g/m <sup>3</sup>	0.908 ± 0.077	11.3
Sulphate	g/m <sup>3</sup>	30.7 ± 2.1	-

**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](http://www.hill-laboratories.com/files/Intro_To_UOM.pdf), or contact the laboratory.

Note that the units: g/m<sup>3</sup> 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 0.45 µm membrane filter. Analysed at Hill Laboratories - Chemistry; Unit 1, 17 Print Place, Middleton, Christchurch.	-	1
Total Digestion	Nitric acid digestion. APHA 3030 E (modified) : Online Edition.	-	1
Turbidity	Analysis by Hanna H188703-02 Turbidity meter. Analysed at Hill Laboratories - Chemistry; Unit 1, 17 Print Place, Middleton, Christchurch. APHA 2130 B (modified) : Online Edition.	0.05 NTU	1
pH	pH meter. Analysed at Hill Laboratories - Chemistry; Unit 1, 17 Print Place, Middleton, Christchurch. APHA 4500-H <sup>+</sup> 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. Analysed at Hill Laboratories - Chemistry; Unit 1, 17 Print Place, Middleton, Christchurch. APHA 2320 B (modified for Alkalinity <20) : Online Edition.	1.0 g/m <sup>3</sup> as CaCO <sub>3</sub>	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 <sub>2</sub> D : Online Edition.	1.0 g/m <sup>3</sup> at 25°C	1
Total Hardness	Calculation from Total Calcium and Total Magnesium. APHA 2340 B : Online Edition.	1.0 g/m <sup>3</sup> as CaCO <sub>3</sub>	1
Electrical Conductivity (EC)	Conductivity meter, 25°C. Analysed at Hill Laboratories - Chemistry; Unit 1, 17 Print Place, Middleton, Christchurch. 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 <sup>3</sup>	1
Total Arsenic	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.0011 g/m <sup>3</sup>	1
Total Boron	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.053 g/m <sup>3</sup>	1
Total Calcium	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.053 g/m <sup>3</sup>	1
Total Copper	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.00053 g/m <sup>3</sup>	1
Total Iron	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.021 g/m <sup>3</sup>	1
Total Lead	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.00011 g/m <sup>3</sup>	1

Sample Type: Drinking Water for DWSNZ Compliance			
Test	Method Description	Default Detection Limit	Sample No
Total Magnesium	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.021 g/m <sup>3</sup>	1
Total Manganese	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.00053 g/m <sup>3</sup>	1
Total Potassium	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.053 g/m <sup>3</sup>	1
Total Sodium	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.021 g/m <sup>3</sup>	1
Total Zinc	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.0011 g/m <sup>3</sup>	1
Chloride	Filtered sample from Christchurch. Ion Chromatography. APHA 4110 B (modified) : Online Edition.	0.5 g/m <sup>3</sup>	1
Nitrate-N	Filtered (if required) sample from Christchurch. Ion Chromatography. APHA 4110 B (modified) : Online Edition.	0.05 g/m <sup>3</sup>	1
Sulphate	Filtered sample from Christchurch. Ion Chromatography. APHA 4110 B (modified) : Online Edition.	0.5 g/m <sup>3</sup>	1
Escherichia coli	MPN count using Colilert 18 (Incubated at 35°C for 18 hours) and 97 wells. Analysed at Hill Laboratories - Microbiology; Unit 1, 17 Print Place, Middleton, Christchurch. 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 21-May-2026 and 26-May-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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