



## Certificate of Analysis

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<b>Client:</b> Timaru District Council <b>Contact:</b> Pauline Robertson C/- Timaru District Council PO Box 522 Timaru 7940	<b>Lab No:</b> 2789219 <b>Date Received:</b> 03-Dec-2021 <b>Date Reported:</b> 08-Dec-2021 <b>Quote No:</b> 52513 <b>Order No:</b> <b>Client Reference:</b> Groundwater Nitrate <b>Submitted By:</b> J Clemens	DWUPv1
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### Sample Type: Aqueous

	<b>Sample Name:</b>	RAN003RH Rangitata Huts 02-Dec-2021 9:20 am	137 Foley Rd SEAOOISE 02-Dec-2021 3:00 pm	<b>Guideline Value</b>	<b>Maximum Acceptable Values (MAV)</b>
	<b>Lab Number:</b>	2789219.1	2789219.2		
Nitrate-N	g/m <sup>3</sup>	8.80 ± 0.67	2.56 ± 0.20	-	11.3
Nitrate	g/m <sup>3</sup>	39.0 ± 3.0	11.35 ± 0.88	-	50



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.

Sample Type: Aqueous					
	Sample Name:	Geraldine GEROOIGE 02-Dec-2021 3:15 pm	Opihi G00203 02-Dec-2021 3:40 pm	Guideline Value	Maximum Acceptable Values (MAV)
	Lab Number:	2789219.3	2789219.4		
Nitrate-N	g/m <sup>3</sup>	0.442 ± 0.048	0.764 ± 0.067	-	11.3
Nitrate	g/m <sup>3</sup>	1.96 ± 0.21	3.38 ± 0.30	-	50

Sample Type: Aqueous					
Sample Name:		32 George St PLEOOIPP 02-Dec-2021 3:15 pm		Guideline Value	Maximum Acceptable Values (MAV)
Lab Number:		2789219.5			
Nitrate-N	g/m <sup>3</sup>	0.889 ± 0.076		-	11.3
Nitrate	g/m <sup>3</sup>	3.94 ± 0.34		-	50

**Note:** The Guideline Values and Maximum Acceptable Values (MAV) are taken from the publication 'Drinking-water Standards for New Zealand 2005 (Revised 2018)', Ministry of Health. Copies of this publication are available from <https://www.health.govt.nz/publication/drinking-water-standards-new-zealand-2005-revised-2018>

The Maximum Acceptable Values (MAVs) have been defined by the Ministry of Health for parameters of health significance and should not be exceeded. The Guideline Values are the limits for aesthetic determinands that, if exceeded, may render the water unattractive to consumers.

**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 New Zealand Drinking Water Standards 2005 (Revised 2018)) that indicates any non-compliance (transgression) with the Maximum Acceptable Values (MAVs) to Taumata Arowai, the water services regulator for Aotearoa.**

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 Laboratories, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Aqueous				
Test	Method Description		Default Detection Limit	Sample No
Filtration, Unpreserved	Sample filtration through 0.45µm membrane filter. Performed at Hill Laboratories - Chemistry; 101c Waterloo Road, Christchurch.		-	1-5
Nitrate-N	Filtered sample from Christchurch. Ion Chromatography. APHA 4110 B (modified) 23 <sup>rd</sup> ed. 2017.		0.05 g/m <sup>3</sup>	1-5
Nitrate	Calculation from Nitrate-N.		0.005 g/m <sup>3</sup>	1-5

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

Testing was completed on 08-Dec-2021. 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.

This certificate of analysis must not be reproduced, except in full, without the written consent of the signatory.



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