



## **ASHFORD PARK - OTAKI**

# **2023 Annual Water Quality Report**

**1 Nov 2022 – 31 Oct 2023**

**Prepared by Winstone Aggregates in general accordance with Condition  
17 of Resource Consent WGN160103 [35062]**

## Introduction

This annual report is prepared in general accordance with 17 of GWRC Resource Consent WGN160103 [35062].

Condition 17 states:

*“From 2018, the consent holder shall provide an annual report which analyses the water quality sample results as required under condition (13) and assess the results for any trend against all water quality samples taken to date. The trend analysis shall look at any increases or decreases in E.coli and total petroleum hydrocarbon samples, and the relationship between the groundwater and surface water results. The analysis should also consider weather conditions and rainfall at the time of sampling as required by condition (15). The report shall be submitted to the Manager, Environmental Regulation, Wellington Regional Council, by 1 November each year.”*

This report covers the period 1 November 2022 – 31 October 2023.

Please refer to **Appendix A** for sampling results, **Appendix B** for sampling locations and **Appendix C** for copies of the sampling reports.

## 1.0 Results Analysis

### E-Coli

The only elevated E-Coli levels were in the open water sampling location, which is not unusual for shallow standing water in a rural location. None of these results were above the E-Coli trigger level of 260cfu/100mL (WGN160103 [35062] Condition 16).

### TPH (Total Petroleum Hydrocarbons)

All results were below acceptable limits.

## APPENDIX A – SAMPLING RESULTS

Ref #	Parameter	Unit	Sample Dec 2022			Sample March 2023			Sample Aug 2023		
			72 Te Roto Rd	WA Bore	Pond Water	72 Te Roto Rd	WA Bore	Pond Water	72 Te Roto Rd	WA Bore	Pond Water
1	TPH C7-9	mg/L	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2	TPH C10-12	mg/L	< 0.1	< 0.1	< 0.1	< 0.1	0.2	< 0.1	< 0.1	< 0.1	< 0.1
3	TPH C13-19	mg/L	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4	TPH C20-C26	mg/L	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
5	TPH C27-37	mg/L	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
6	Max. TPH Content	mg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
7	Faecal Coliforms	cfu/100mL	< 1	< 1	68	< 1	< 1	40	< 1	< 1	16
8	E.coli	cfu/100mL	< 1	< 1	96	< 1	< 1	28	< 1	< 1	16

\* All samples were taken in accordance with Conditions 14 and 14 of GWRC Resource Consent WGN160103 [35062]

## APPENDIX B - SAMPLING LOCATIONS



## **APPENDIX C - SAMPLING REPORTS**

## Food &amp; Water Testing

## ANALYTICAL REPORT

REPORT CODE AR-22-NW-045833-01

REPORT DATE

16/12/2022

Attention Winstone Aggregates - Otaki

Gary Edwards  
1 state highway 1  
5543 Otaki  
NEW ZEALAND

Phone 64272135004

Email gary.edwards@winstoneaggregates.co.nz

Copy to: paxie (andreas.paxie@gmail.com), services  
(sharedservices@fbu.com), adams

Contact for your orders: Mohammed Marza  
Contract: Otaki

Order code: EUNZWE-00083631

SAMPLE CODE 812-2022-00136263

Sampling Point NW0002209002:Winstone Otaki Pond

Reception Date &amp; Time: 08/12/2022 19:51

Analysis Start Date &amp; Time: 08/12/2022 19:55

Sampled Date &amp; Time 08/12/2022 15:54

Sampled by Eurofins True

Analysis Ending Date:

16/12/2022

Sampler(s)

Michael Sherry

## RESULTS

## LOQ

## NW453 Aluminium - Dissolved

Parameter	Result	Unit	LOQ
Aluminium	<0.005	mg/l	0.005

## NW457 Calcium - Dissolved

Calcium (Ca)	6.55	mg/l	0.01
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## NW007 Chloride

Chloride (Cl)	6.93	mg/l	0.02
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## NW023 Conductivity

Conductivity	7.9	mS/m	0.1
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## ZM0UY Enumeration of Escherichia coli By Membrane Filtration

Escherichia coli	68	cfu/100 ml	4
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## ZM0WF Enumeration of Faecal Coliforms By Membrane Filtration

Faecal Coliforms	96	cfu/100 ml	4
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## NW460 Iron - Dissolved

Iron (Fe)	0.005	mg/l	0.005
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## NW462 Magnesium - Dissolved

Magnesium (Mg)	1.40	mg/l	0.01
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## NW463 Manganese - Dissolved

Manganese (Mn)	<0.005	mg/l	0.005
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## NW010 Nitrate-N

Nitrate-N	<0.01	mg/l	0.01
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## NW195 pH

pH	7.3		0.1
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## NW003 Total Alkalinity

Alkalinity total	26	mg CaCO3/l	1
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## NW029 Total Hardness

Hardness	22	mg CaCO3/l	1
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## NW227 TPH (GC-FID)

## Food & Water Testing

RESULTS			LOQ
<b>NW227 TPH (GC-FID)</b>			
Maximum TPH Content	<0.5	mg/l	0.1
Nonpolar TPH C10-C12	<0.1	mg/l	0.1
TPH C13 - C19	<0.1	mg/l	0.1
TPH C20 - C26	<0.1	mg/l	0.1
TPH C27 - C37	<0.1	mg/l	0.1
TPH C7 - C9	<0.1	mg/l	0.1
<b>NW212 Turbidity</b>			
Turbidity	1.20	NTU	0.01

<b>SAMPLE CODE</b>	<b>812-2022-00136264</b>		
<b>Sampling Point</b>	NW0002209003:72 Te Roto Site Bore		
<b>Reception Date &amp; Time:</b>	08/12/2022 19:51		
<b>Analysis Start Date &amp; Time:</b>	08/12/2022 19:55	<b>Analysis Ending Date:</b>	16/12/2022
<b>Sampled Date &amp; Time</b>	08/12/2022 15:54	<b>Sampler(s)</b>	Michael Sherry
<b>Sampled by Eurofins</b>	True		

RESULTS			LOQ
<b>NW453 Aluminium - Dissolved</b>			
Aluminium	<0.005	mg/l	0.005
<b>NW457 Calcium - Dissolved</b>			
Calcium (Ca)	9.43	mg/l	0.01
<b>NW007 Chloride</b>			
Chloride (Cl)	8.95	mg/l	0.02
<b>NW023 Conductivity</b>			
Conductivity	10.7	mS/m	0.1
<b>ZM0UW Enumeration of Escherichia coli By Membrane Filtration</b>			
Escherichia coli	<1	cfu/100 ml	1
<b>UME9S Enumeration of Faecal Coliforms by Membrane Filtration</b>			
Faecal Coliforms	<1	cfu/100 ml	1
<b>NW460 Iron - Dissolved</b>			
Iron (Fe)	0.082	mg/l	0.005
<b>NW462 Magnesium - Dissolved</b>			
Magnesium (Mg)	1.90	mg/l	0.01
<b>NW463 Manganese - Dissolved</b>			
Manganese (Mn)	<0.005	mg/l	0.005
<b>NW010 Nitrate-N</b>			
Nitrate-N	0.61	mg/l	0.01
<b>NW195 pH</b>			
pH	6.2		0.1
<b>NW003 Total Alkalinity</b>			
Alkalinity total	23	mg CaCO3/l	1
<b>NW029 Total Hardness</b>			
Hardness	31	mg CaCO3/l	1
<b>NW227 TPH (GC-FID)</b>			
Maximum TPH Content	<0.5	mg/l	0.1

## Food & Water Testing

RESULTS			LOQ
<b>NW227 TPH (GC-FID)</b>			
Nonpolar TPH C10-C12	<0.1	mg/l	0.1
TPH C13 - C19	<0.1	mg/l	0.1
TPH C20 - C26	<0.1	mg/l	0.1
TPH C27 - C37	<0.1	mg/l	0.1
TPH C7 - C9	<0.1	mg/l	0.1
<b>NW212 Turbidity</b>			
Turbidity	1.73	NTU	0.01

<b>SAMPLE CODE</b>	<b>812-2022-00136265</b>		
<b>Sampling Point</b>	NW0002209001:Winstone Otaki Bore		
<b>Reception Date &amp; Time:</b>	08/12/2022 19:51		
<b>Analysis Start Date &amp; Time:</b>	08/12/2022 19:55	<b>Analysis Ending Date:</b>	16/12/2022
<b>Sampled Date &amp; Time</b>	08/12/2022 15:51	<b>Sampler(s)</b>	Michael Sherry
<b>Sampled by Eurofins</b>	True		

RESULTS			LOQ
<b>NW453 Aluminium - Dissolved</b>			
Aluminium	<0.005	mg/l	0.005
<b>NW457 Calcium - Dissolved</b>			
Calcium (Ca)	8.71	mg/l	0.01
<b>NW007 Chloride</b>			
Chloride (Cl)	8.06	mg/l	0.02
<b>NW023 Conductivity</b>			
Conductivity	9.8	mS/m	0.1
<b>ZM0UW Enumeration of Escherichia coli By Membrane Filtration</b>			
Escherichia coli	<1	cfu/100 ml	1
<b>UME9S Enumeration of Faecal Coliforms by Membrane Filtration</b>			
Faecal Coliforms	<1	cfu/100 ml	1
<b>NW460 Iron - Dissolved</b>			
Iron (Fe)	<0.005	mg/l	0.005
<b>NW462 Magnesium - Dissolved</b>			
Magnesium (Mg)	1.71	mg/l	0.01
<b>NW463 Manganese - Dissolved</b>			
Manganese (Mn)	<0.005	mg/l	0.005
<b>NW010 Nitrate-N</b>			
Nitrate-N	0.41	mg/l	0.01
<b>NW195 pH</b>			
pH	6.6		0.1
<b>NW003 Total Alkalinity</b>			
Alkalinity total	25	mg CaCO3/l	1
<b>NW029 Total Hardness</b>			
Hardness	29	mg CaCO3/l	1
<b>NW227 TPH (GC-FID)</b>			
Maximum TPH Content	<0.5	mg/l	0.1
Nonpolar TPH C10-C12	<0.1	mg/l	0.1



## Food & Water Testing

	RESULTS		LOQ
<b>NW227 TPH (GC-FID)</b>			
TPH C13 - C19	<0.1	mg/l	0.1
TPH C20 - C26	<0.1	mg/l	0.1
TPH C27 - C37	<0.1	mg/l	0.1
TPH C7 - C9	<0.1	mg/l	0.1
<b>NW212 Turbidity</b>			
Turbidity	0.65	NTU	0.01

### LIST OF METHODS

NW003 <b>Total Alkalinity:</b> APHA Online Edition 2320 B	NW007 <b>Chloride:</b> APHA Online Edition 4110 B
NW010 <b>Nitrate-N:</b> APHA Online Edition 4110 B	NW023 <b>Conductivity:</b> APHA Online Edition 2510 B
NW029 <b>Total Hardness:</b> APHA Online Edition 2340 B	NW195 <b>pH:</b> APHA Online Edition 4500-H B
NW212 <b>Turbidity:</b> APHA Online Edition 2130 B	NW227 <b>TPH (GC-FID):</b> Internal Method, GC-FID
NW453 <b>Aluminium - Dissolved:</b> APHA Online Edition 3120 B mod.	NW457 <b>Calcium - Dissolved:</b> APHA Online Edition 3120 B mod.
NW460 <b>Iron - Dissolved:</b> APHA Online Edition 3120 B mod.	NW462 <b>Magnesium - Dissolved:</b> APHA Online Edition 3120 B mod.
NW463 <b>Manganese - Dissolved:</b> APHA Online Edition 3120 B mod.	UME9S <b>Faecal Coliforms E (Water) [NZ] &lt;1 &gt;60 /100 ml (0) m-FC Agar-F:</b> SMEWW 9222D; APHA Online
ZM0UW <b>Escherichia coli E (Water) [NZ] &lt;1 &gt;60 /100 ml (0) m-FC Agar-F:</b> SMEWW 9222I; APHA Online	ZM0UY <b>Escherichia coli E (Water) [NZ] &lt;4 &gt;240 /100 ml (0) m-FC Agar-F:</b> SMEWW 9222I; APHA Online
ZM0WF <b>Faecal Coliforms E (Water) [NZ] &lt;4 &gt;240 /100 ml (0) m-FC Agar-F:</b> SMEWW 9222D; APHA Online	

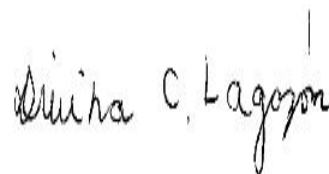
Signature



Jennifer Mont Supervisor



Amitesh Kumar Supervisor



Divina Cunanan Lagazon Supervisor



Ganesh Ilancko Supervisor



Leo Cleave Senior Analyst



Arvinder Singh Supervisor

### EXPLANATORY NOTE

- ① Test is not accredited
- ② Test is subcontracted within Eurofins group and is accredited
- ③ Test is subcontracted within Eurofins group and is not accredited
- ④ Test is subcontracted outside Eurofins group and is accredited
- ⑤ Test is subcontracted outside Eurofins group and is not accredited
- ⑥ Test result is provided by the customer and is not accredited
- ⑦ Tested at the sampling point by Eurofins and is not accredited
- ⑧ Tested at the sampling point by Eurofins and is accredited

**N/A** means Not applicable

**Not Detected** means not detected at or above the Limit of Quantification (LOQ)

**LOQ** means Limit of Quantification and the unit of LOQ is the same as the result unit

## Food & Water Testing

The test result(s) in this report apply only to the sample as received.

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The tests are identified by a five-digit code, their description is available on request.

Accreditation does not apply to comments or graphical representations.

Unless otherwise stated, all tests in this analytical report (except for subcontracted tests) are performed at 85 Port Road, Seaview, Lower Hutt, Wellington, NEW ZEALAND.

The laboratory is not responsible for the information provided by the customer which can affect the validity of the results, for example: sampling information such as date/time, field data etc.

This report issued by Eurofins relates exclusively to the samples provided by the Customer and does not relate to the lot / batch from which the samples have been obtained.

Eurofins may subcontract the performance of part or all of the Services to a third party and the Customer authorises the release of all information necessary to the third party for the provision of the Services.

All samples become the property of Eurofins to the extent necessary for the performance of the Services.

Eurofins will not be required to store samples and may destroy or otherwise dispose of the samples or return the samples to the Customer (at the Customer's cost in all respects) immediately following analysis of the samples.

If the Customer pays for storage of the samples Eurofins will take commercially reasonable steps to store the samples for the agreed period in terms of industry practice.

The Customer acknowledges and accepts that: (a) it is solely responsible for the sampling process and warrants that the sample provided to Eurofins is representative of the lot / batch from which the samples were drawn; and (b) Eurofins expresses no opinion and accepts no liability in respect of the Customer's production process or homogeneity of the sample.

The Eurofins water sampling services uses IANZ approved methodology based on AS/NZS 5667 and / or best practice to collect and transport samples that are fit for the purpose of analytical testing. Eurofins shall have no liability if the sample collected is not representative of the source from which it has been taken. The laboratory is not responsible for sampling activities unless explicitly indicated by the statement "Sampled by Eurofins" on the report for water samples.

The Customer acknowledges that the Services are provided using the then current state of technology and methods developed and generally applied by Eurofins and involve analysis, interpretations, consulting work and conclusions. Eurofins shall use commercially reasonable degree of care in providing the Services.

This report is produced and issued on the basis of information, documents and/or samples provided by, or on behalf of, the Customer and solely for the benefit of the Customer who is responsible for acting as it sees fit on the basis of this report. Neither Eurofins nor any of its officers, employees, agents or subcontractors shall be liable to the Customer nor any third party for any actions taken or not taken on the basis of this report nor for any incorrect results arising from unclear, erroneous, incomplete, misleading or false information provided to Eurofins.

Eurofins shall have no liability for any indirect or consequential loss including, without limitation, loss of production, loss of contracts, loss of profits, loss of business or costs incurred from business interruption, loss of opportunity, loss of goodwill or damage to reputation and cost of product recall (including any losses suffered as a result of distribution of the Customer's products subject of the Services prior to the report being released by Eurofins). It shall further have no liability for any loss, damage or expenses arising from the claims of any third party (including, without limitation, product liability claims) that may be incurred by the Customer.

Eurofins General Terms and Conditions apply.

### END OF REPORT

## Food & Water Testing

# ANALYTICAL REPORT

REPORT CODE	AR-23-NW-013475-01	REPORT DATE	25/03/2023
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**Attention** Winstone Aggregates - Otaki  
Gary Edwards  
1 state highway 1  
5543 Otaki  
NEW ZEALAND

**Phone** 64272135004

**Email** gary.edwards@winstoneaggregates.co.nz

**Copy to:** paxie (andreas.paxie@gmail.com), services (sharedservices@fbu.com), adams

**Contact for your orders:** Mohammed Marza  
**Contract:** Otaki

**Order code:** EUNZWE-00113173

**SAMPLE CODE** 812-2023-00034521

**Sampling Point code:** NW0002209002

**Sampling Point name:** Winstone Otaki Pond

**Reception Date & Time:** 16/03/2023 16:44

**Analysis Start Date & Time:** 16/03/2023 16:44

**Analysis Ending Date:** 25/03/2023

**Sampled Date & Time** 16/03/2023 11:48

**Sampler(s)** Ethan Clarke

**Sampled by Eurofins** Yes

### RESULTS

### LOQ

#### NW453 Aluminium - Dissolved

Aluminium	0.006	mg/l	0.005
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#### NW457 Calcium - Dissolved

Calcium (Ca)	6.90	mg/l	0.01
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#### NW007 Chloride

Chloride (Cl)	6.13	mg/l	0.02
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#### NW023 Conductivity

Conductivity	8.4	mS/m	0.1
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#### ZM0UY Enumeration of Escherichia coli By Membrane Filtration

Escherichia coli	28	cfu/100 ml	4
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#### ZM0WF Enumeration of Faecal Coliforms By Membrane Filtration

Faecal Coliforms	40	cfu/100 ml	4
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#### NW460 Iron - Dissolved

Iron (Fe)	0.009	mg/l	0.005
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#### NW462 Magnesium - Dissolved

Magnesium (Mg)	1.49	mg/l	0.01
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#### NW463 Manganese - Dissolved

Manganese (Mn)	<0.005	mg/l	0.005
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#### NW010 Nitrate-N

Nitrate-N	<0.01	mg/l	0.01
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#### NW195 pH

pH	7.8		0.1
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#### NW003 Total Alkalinity

Alkalinity total	30	mg CaCO3/l	1
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#### NW029 Total Hardness

Hardness	23	mg CaCO3/l	1
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#### NW227 TPH (GC-FID)

## Food & Water Testing

RESULTS			LOQ
<b>NW227 TPH (GC-FID)</b>			
Maximum TPH Content	<0.5	mg/l	0.1
Nonpolar TPH C10-C12	<0.1	mg/l	0.1
TPH C13 - C19	<0.1	mg/l	0.1
TPH C20 - C26	<0.1	mg/l	0.1
TPH C27 - C37	<0.1	mg/l	0.1
TPH C7 - C9	<0.1	mg/l	0.1
<b>NW212 Turbidity</b>			
Turbidity	0.76	NTU	0.01

<b>SAMPLE CODE</b>	<b>812-2023-00034522</b>		
<b>Sampling Point code:</b>	NW0002209001	<b>Sampling Point name:</b>	Winstone Otaki Bore
<b>Reception Date &amp; Time:</b>	16/03/2023 16:44		
<b>Analysis Start Date &amp; Time:</b>	16/03/2023 16:46	<b>Analysis Ending Date:</b>	25/03/2023
<b>Sampled Date &amp; Time</b>	16/03/2023 11:19	<b>Sampler(s)</b>	Ethan Clarke
<b>Sampled by Eurofins</b>	Yes		

RESULTS			LOQ
<b>NW453 Aluminium - Dissolved</b>			
Aluminium	<0.005	mg/l	0.005
<b>NW457 Calcium - Dissolved</b>			
Calcium (Ca)	8.05	mg/l	0.01
<b>NW007 Chloride</b>			
Chloride (Cl)	6.75	mg/l	0.02
<b>NW023 Conductivity</b>			
Conductivity	9.3	mS/m	0.1
<b>ZM0UW Enumeration of Escherichia coli By Membrane Filtration</b>			
Escherichia coli	<1	cfu/100 ml	1
<b>UME9S Enumeration of Faecal Coliforms by Membrane Filtration</b>			
Faecal Coliforms	<1	cfu/100 ml	1
<b>NW460 Iron - Dissolved</b>			
Iron (Fe)	<0.005	mg/l	0.005
<b>NW462 Magnesium - Dissolved</b>			
Magnesium (Mg)	1.62	mg/l	0.01
<b>NW463 Manganese - Dissolved</b>			
Manganese (Mn)	<0.005	mg/l	0.005
<b>NW010 Nitrate-N</b>			
Nitrate-N	0.20	mg/l	0.01
<b>NW195 pH</b>			
pH	6.6		0.1
<b>NW003 Total Alkalinity</b>			
Alkalinity total	23	mg CaCO3/l	1
<b>NW029 Total Hardness</b>			
Hardness	27	mg CaCO3/l	1
<b>NW227 TPH (GC-FID)</b>			
Maximum TPH Content	<0.5	mg/l	0.1

## Food & Water Testing

RESULTS			LOQ		
NW227	TPH (GC-FID)				
	Nonpolar TPH C10-C12	0.2	mg/l	0.1	
	TPH C13 - C19	<0.1	mg/l	0.1	
	TPH C20 - C26	<0.1	mg/l	0.1	
	TPH C27 - C37	<0.1	mg/l	0.1	
	TPH C7 - C9	<0.1	mg/l	0.1	
NW212	Turbidity				
	Turbidity	0.23	NTU	0.01	
SAMPLE CODE 812-2023-00034523					
Sampling Point code:		NW0002209003		Sampling Point name:	72 Te Roto Site Bore
Reception Date & Time:		16/03/2023 16:44			
Analysis Start Date & Time:		16/03/2023 16:50		Analysis Ending Date:	25/03/2023
Sampled Date & Time		16/03/2023 11:13		Sampler(s)	Ethan Clarke
Sampled by Eurofins		Yes			
RESULTS			LOQ		
NW453	Aluminium - Dissolved				
	Aluminium	<0.005	mg/l	0.005	
NW457	Calcium - Dissolved				
	Calcium (Ca)	8.62	mg/l	0.01	
NW007	Chloride				
	Chloride (Cl)	8.08	mg/l	0.02	
NW023	Conductivity				
	Conductivity	10.1	mS/m	0.1	
ZM0UW	Enumeration of Escherichia coli By Membrane Filtration				
	Escherichia coli	<1	cfu/100 ml	1	
UME9S	Enumeration of Faecal Coliforms by Membrane Filtration				
	Faecal Coliforms	<1	cfu/100 ml	1	
NW460	Iron - Dissolved				
	Iron (Fe)	0.080	mg/l	0.005	
NW462	Magnesium - Dissolved				
	Magnesium (Mg)	1.74	mg/l	0.01	
NW463	Manganese - Dissolved				
	Manganese (Mn)	<0.005	mg/l	0.005	
NW010	Nitrate-N				
	Nitrate-N	0.27	mg/l	0.01	
NW195	pH				
	pH	6.4		0.1	
NW003	Total Alkalinity				
	Alkalinity total	24	mg CaCO3/l	1	
NW029	Total Hardness				
	Hardness	29	mg CaCO3/l	1	
NW227	TPH (GC-FID)				
	Maximum TPH Content	<0.5	mg/l	0.1	
	Nonpolar TPH C10-C12	<0.1	mg/l	0.1	

## Food & Water Testing

	RESULTS		LOQ
<b>NW227 TPH (GC-FID)</b>			
TPH C13 - C19	<0.1	mg/l	0.1
TPH C20 - C26	<0.1	mg/l	0.1
TPH C27 - C37	<0.1	mg/l	0.1
TPH C7 - C9	<0.1	mg/l	0.1
<b>NW212 Turbidity</b>			
Turbidity	0.70	NTU	0.01

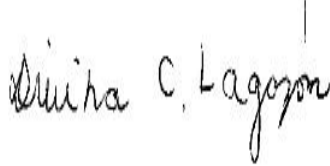
### LIST OF METHODS

NW003 <b>Total Alkalinity:</b> APHA Online Edition 2320 B	NW007 <b>Chloride:</b> APHA Online Edition 4110 B
NW010 <b>Nitrate-N:</b> APHA Online Edition 4110 B	NW023 <b>Conductivity:</b> APHA Online Edition 2510 B
NW029 <b>Total Hardness:</b> APHA Online Edition 2340 B	NW195 <b>pH:</b> APHA Online Edition 4500-H B
NW212 <b>Turbidity:</b> APHA Online Edition 2130 B	NW227 <b>TPH (GC-FID):</b> Internal Method, GC-FID
NW453 <b>Aluminium - Dissolved:</b> APHA Online Edition 3120 B mod.	NW457 <b>Calcium - Dissolved:</b> APHA Online Edition 3120 B mod.
NW460 <b>Iron - Dissolved:</b> APHA Online Edition 3120 B mod.	NW462 <b>Magnesium - Dissolved:</b> APHA Online Edition 3120 B mod.
NW463 <b>Manganese - Dissolved:</b> APHA Online Edition 3120 B mod.	UME9S <b>Faecal Coliforms E (Water) [NZ] &lt;1 &gt;60 /100 ml (0) m-FC</b> Agar-F: SMEWW 9222D; APHA Online
ZM0UW <b>Escherichia coli E (Water) [NZ] &lt;1 &gt;60 /100 ml (0) m-FC</b> Agar-F: SMEWW 9222I; APHA Online	ZM0UY <b>Escherichia coli E (Water) [NZ] &lt;4 &gt;240 /100 ml (0) m-FC</b> Agar-F: SMEWW 9222I; APHA Online
ZM0WF <b>Faecal Coliforms E (Water) [NZ] &lt;4 &gt;240 /100 ml (0)</b> m-FC Agar-F: SMEWW 9222D; APHA Online	

Signature



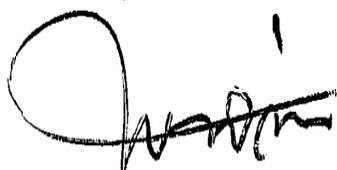
Jennifer Mont Supervisor



Divina Cunanan Lagazon Supervisor



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Ganesh Ilancko Supervisor



Leo Cleave Senior Analyst



Gabriela Carvalhaes Manager Food and Water Testing Chemistry

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- ⑤ Test is subcontracted outside Eurofins group and is not accredited
- ⑥ Test result is provided by the customer and is not accredited
- ⑦ Tested at the sampling point by Eurofins and is not accredited
- ⑧ Tested at the sampling point by Eurofins and is accredited

**N/A** means Not Applicable

**Not Detected** means not detected at or above the Limit of Quantification (LOQ)

**LOQ** means Limit of Quantification and the unit of LOQ is the same as the result unit

The test result(s) in this report apply only to the sample as received.

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The tests are identified by a five-digit code, their description is available on request.

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### END OF REPORT



## Food & Water Testing

# ANALYTICAL REPORT

REPORT CODE **AR-23-NW-045497-01** REPORT DATE **05/09/2023**

**Attention** Winstone Aggregates - Otaki  
Gary Edwards  
1 state highway 1  
5543 Otaki  
NEW ZEALAND

**Phone** 64272135004

**Email** gary.edwards@winstoneaggregates.co.nz

**Copy to:** paxie (andreas.paxie@gmail.com), services (sharedservices@fbu.com), adams

**Contact for your orders:** Mohammed Marza  
**Contract:** Otaki

**Order code:** EUNZWE-00139494

**SAMPLE CODE** **812-2023-00116476**

**Sampling Point code:** NW0002209002  
**Reception Date & Time:** 28/08/2023 11:58  
**Analysis Start Date & Time:** 28/08/2023 12:09  
**Sampled Date & Time** 28/08/2023 09:37  
**Sampled by Eurofins** Yes

**Sampling Point name:** Winstone Otaki Pond  
**Analysis Ending Date:** 05/09/2023  
**Sampler(s)** Ethan Clarke

### RESULTS

### LOQ

<b>NW007 Chloride</b>	6.55	mg/l	0.02
Chloride (Cl)			
<b>NW023 Conductivity</b>	8.0	mS/m	0.1
Conductivity			
<b>NW453 Dissolved Aluminium</b>	<0.005	mg/l	0.005
Aluminium			
<b>NW457 Dissolved Calcium</b>	7.30	mg/l	0.01
Calcium (Ca)			
<b>NW460 Dissolved Iron</b>	<0.005	mg/l	0.005
Iron (Fe)			
<b>NW462 Dissolved Magnesium</b>	1.40	mg/l	0.01
Magnesium (Mg)			
<b>NW463 Dissolved Manganese</b>	<0.005	mg/l	0.005
Manganese (Mn)			
<b>ZM0UY Enumeration of Escherichia coli By Membrane Filtration</b>	16	cfu/100 ml	4
Escherichia coli			
<b>ZM0WF Enumeration of Faecal Coliforms By Membrane Filtration</b>	16	cfu/100 ml	4
Faecal Coliforms			
<b>NW010 Nitrate-N</b>	0.05	mg/l	0.01
Nitrate-N			
<b>NW195 pH</b>	7.5		0.1
pH			
<b>NW003 Total Alkalinity</b>	24	mg CaCO3/l	1
Alkalinity total			
<b>NW029 Total Hardness</b>	24	mg CaCO3/l	1
Hardness			
<b>NW227 TPH (GC-FID)</b>	<0.5	mg/l	0.1
Maximum TPH Content	<0.1	mg/l	0.1
Nonpolar TPH C10-C12			



## Food & Water Testing

RESULTS			LOQ
<b>NW227 TPH (GC-FID)</b>			
TPH C13 - C19	<0.1	mg/l	0.1
TPH C20 - C26	<0.1	mg/l	0.1
TPH C27 - C37	<0.1	mg/l	0.1
TPH C7 - C9	<0.1	mg/l	0.1
<b>NW212 Turbidity</b>			
Turbidity	1.23	NTU	0.01

**SAMPLE CODE** 812-2023-00116477

**Sampling Point code:** NW0002209003  
**Reception Date & Time:** 28/08/2023 12:01  
**Analysis Start Date & Time:** 28/08/2023 12:09  
**Sampled Date & Time** 28/08/2023 08:59  
**Sampled by Eurofins** Yes

**Sampling Point name:** 72 Te Roto Site Bore  
**Analysis Ending Date:** 05/09/2023  
**Sampler(s)** Ethan Clarke

RESULTS			LOQ
<b>NW007 Chloride</b>			
Chloride (Cl)	7.93	mg/l	0.02
<b>NW023 Conductivity</b>			
Conductivity	9.2	mS/m	0.1
<b>NW453 Dissolved Aluminium</b>			
Aluminium	<0.005	mg/l	0.005
<b>NW457 Dissolved Calcium</b>			
Calcium (Ca)	7.82	mg/l	0.01
<b>NW460 Dissolved Iron</b>			
Iron (Fe)	0.055	mg/l	0.005
<b>NW462 Dissolved Magnesium</b>			
Magnesium (Mg)	1.51	mg/l	0.01
<b>NW463 Dissolved Manganese</b>			
Manganese (Mn)	<0.005	mg/l	0.005
<b>ZM0UW Enumeration of Escherichia coli By Membrane Filtration</b>			
Escherichia coli	<1	cfu/100 ml	1
<b>UME9S Enumeration of Faecal Coliforms by Membrane Filtration</b>			
Faecal Coliforms	<1	cfu/100 ml	1
<b>NW010 Nitrate-N</b>			
Nitrate-N	0.74	mg/l	0.01
<b>NW195 pH</b>			
pH	6.4		0.1
<b>NW003 Total Alkalinity</b>			
Alkalinity total	21	mg CaCO3/l	1
<b>NW029 Total Hardness</b>			
Hardness	26	mg CaCO3/l	1
<b>NW227 TPH (GC-FID)</b>			
Maximum TPH Content	<0.5	mg/l	0.1
Nonpolar TPH C10-C12	<0.1	mg/l	0.1
TPH C13 - C19	<0.1	mg/l	0.1
TPH C20 - C26	<0.1	mg/l	0.1
TPH C27 - C37	<0.1	mg/l	0.1
TPH C7 - C9	<0.1	mg/l	0.1

## Food & Water Testing

RESULTS			LOQ		
NW212	Turbidity	1.52	NTU	0.01	
	Turbidity				
SAMPLE CODE 812-2023-00116483					
Sampling Point code:		NW0002209001		Sampling Point name:	Winstone Otaki Bore
Reception Date & Time:		28/08/2023 12:06			
Analysis Start Date & Time:		28/08/2023 12:09		Analysis Ending Date:	05/09/2023
Sampled Date & Time		28/08/2023 09:23		Sampler(s)	Ethan Clarke
Sampled by Eurofins		Yes			
RESULTS			LOQ		
NW007	Chloride	7.55	mg/l	0.02	
	Chloride (Cl)				
NW023	Conductivity	8.7	mS/m	0.1	
	Conductivity				
NW453	Dissolved Aluminium	<0.005	mg/l	0.005	
	Aluminium				
NW457	Dissolved Calcium	7.12	mg/l	0.01	
	Calcium (Ca)				
NW460	Dissolved Iron	<0.005	mg/l	0.005	
	Iron (Fe)				
NW462	Dissolved Magnesium	1.59	mg/l	0.01	
	Magnesium (Mg)				
NW463	Dissolved Manganese	<0.005	mg/l	0.005	
	Manganese (Mn)				
ZM0UW	Enumeration of Escherichia coli By Membrane Filtration	<1	cfu/100 ml	1	
	Escherichia coli				
UME9S	Enumeration of Faecal Coliforms by Membrane Filtration	<1	cfu/100 ml	1	
	Faecal Coliforms				
NW010	Nitrate-N	0.58	mg/l	0.01	
	Nitrate-N				
NW195	pH	6.7		0.1	
	pH				
NW003	Total Alkalinity	21	mg CaCO3/l	1	
	Alkalinity total				
NW029	Total Hardness	24	mg CaCO3/l	1	
	Hardness				
NW227	TPH (GC-FID)	<0.5	mg/l	0.1	
	Maximum TPH Content	<0.1	mg/l	0.1	
	Nonpolar TPH C10-C12	<0.1	mg/l	0.1	
	TPH C13 - C19	<0.1	mg/l	0.1	
	TPH C20 - C26	<0.1	mg/l	0.1	
	TPH C27 - C37	<0.1	mg/l	0.1	
	TPH C7 - C9	<0.1	mg/l	0.1	
NW212	Turbidity	0.35	NTU	0.01	
	Turbidity				

### LIST OF METHODS

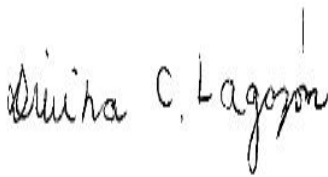
## Food & Water Testing

NW003	<b>Total Alkalinity:</b> APHA Online Edition 2320 B	NW007	<b>Chloride:</b> APHA Online Edition 4110 B
NW010	<b>Nitrate-N:</b> APHA Online Edition 4110 B	NW023	<b>Conductivity:</b> APHA Online Edition 2510 B
NW029	<b>Total Hardness:</b> APHA Online Edition 2340 B	NW195	<b>pH:</b> APHA Online Edition 4500-H B
NW212	<b>Turbidity:</b> APHA Online Edition 2130 B	NW227	<b>TPH (GC-FID):</b> Internal Method, GC-FID
NW453	<b>Dissolved Aluminium:</b> APHA Online Edition 3120 B mod.	NW457	<b>Dissolved Calcium:</b> APHA Online Edition 3120 B mod.
NW460	<b>Dissolved Iron:</b> APHA Online Edition 3120 B mod.	NW462	<b>Dissolved Magnesium:</b> APHA Online Edition 3120 B mod.
NW463	<b>Dissolved Manganese:</b> APHA Online Edition 3120 B mod.	UME9S	<b>Faecal Coliforms E (Water) [NZ] &lt;1 &gt;60 /100 ml (0) m-FC Agar-F:</b> SMEWW 9222D; APHA Online
ZM0UW	<b>Escherichia coli E (Water) [NZ] &lt;1 &gt;60 /100 ml (0) m-FC Agar-F:</b> SMEWW 9222D; APHA Online	ZM0UY	<b>Escherichia coli E (Water) [NZ] &lt;4 &gt;240 /100 ml (0) m-FC Agar-F:</b> SMEWW 9222D; APHA Online
ZM0WF	<b>Faecal Coliforms E (Water) [NZ] &lt;4 &gt;240 /100 ml (0) m-FC Agar-F:</b> SMEWW 9222D; APHA Online		

Signature



**Jennifer Mont** Supervisor



**Divina Cunanan Lagazon** Supervisor



**Gordon McArthur** Senior Laboratory Analyst



**Ganesh Ilancko** Supervisor



**Mandeep Sandhu** Laboratory Supervisor Microbiology



**Arvinder Singh** Laboratory Supervisor Microbiology



**Gabriela Carvalhaes** Manager Food and Water Testing Chemistry

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