

# Food & Water Testing

## ANALYTICAL REPORT

REPORT CODE **AR-25-NC-012135-02 #** REPORT DATE **30/04/2025**

# This amended report supersedes Analytical Report number AR-25-NC-012135-01, dated 30/04/2025.

Attention Otago Regional Council

Private Bag 1954

9054 DUNEDIN

NEW ZEALAND

Phone (0800) 474 082

Email

Copy to: regulatory

Contact for your orders:

Shotover WWTP

Order code:

EUNZCH-00214420

Contract:

Emergency Discharge to Shotover

Purchase Order Number:

Submission Reference:

River Treated Effluent

Comments:

E.coli results missing on original report due to system error

SAMPLE CODE **817-2025-00038884**

Sample Name

IN25.0273A

Sample Reference

U/S WWTP and SH6 Bridge

Reception Date & Time:

14/04/2025 14:30

Reception temperature:

9.5 °C

Analysis Started on:

15/04/2025

Analysis Ending Date:

30/04/2025

Product Type

Surface water, raw water

Sampler(s)

Sampled Date & Time

14/04/2025 12:00

### RESULTS

### LOQ

#### \*NC0AK Ammoniacal Nitrogen by Discrete Analyser

Ammonia nitrogen <0.01 mg/l 0.01

#### \*ZMJU7 Enumeration of Escherichia coli by Membrane Filtration

Escherichia coli 6 cfu/100 ml 1

#### \*NC0AF pH in Water by Manual Electrode (Tested beyond 15 minute APHA holding time)

pH 7.9 0.1

#### \*NC05B Total Biochemical Oxygen Demand (TBOD 5 Days) by Electrode

Biochemical oxygen demand (BOD) <2 mg/l 2

#### \*NC03M Total Nitrogen in Water by Discrete Analyser (Trace)

Total Nitrogen (N) 0.03 mg/l 0.01

#### \*NC04C Total Oxidised Nitrogen in Water by Discrete Analyser

Total Oxidised Nitrogen 0.01 mg/l 0.01

#### \*NC76G Total Phosphorus in Water by Discrete Analyser (Trace)

Total phosphorus <0.01 mg/l 0.01

#### \*NC0AE Total Suspended Solids in Water by Gravimetry

Suspended Solids 5.6 mg/l 2.5

SAMPLE CODE **817-2025-00038885**

Sample Name

IN25.0273B

Sample Reference

Final Discharge Post UV

Reception Date & Time:

14/04/2025 14:30

Reception temperature:

9.5 °C

Analysis Started on:

15/04/2025

Analysis Ending Date:

29/04/2025

Product Type

Treated Effluent

Sampler(s)

Sampled Date & Time

14/04/2025 13:40

## Food & Water Testing

RESULTS			LOQ
<b>*NC0AK Ammoniacal Nitrogen by Discrete Analyser</b>			
Ammonia nitrogen	7.18	mg/l	0.01
<b>*ZMJU7 Enumeration of Escherichia coli by Membrane Filtration</b>			
Escherichia coli	<1	cfu/100 ml	1
<b>*NC0AF pH in Water by Manual Electrode (Tested beyond 15 minute APHA holding time)</b>			
pH	7.3		0.1
<b>*NC05B Total Biochemical Oxygen Demand (TBOD 5 Days) by Electrode</b>			
Biochemical oxygen demand (BOD)	8	mg/l	2
<b>*NC03M Total Nitrogen in Water by Discrete Analyser (Trace)</b>			
Total Nitrogen (N)	11.8	mg/l	0.01
<b>*NC04C Total Oxidised Nitrogen in Water by Discrete Analyser</b>			
Total Oxidised Nitrogen	2.4	mg/l	0.01
<b>*NC76G Total Phosphorus in Water by Discrete Analyser (Trace)</b>			
Total phosphorus	1.52	mg/l	0.01
<b>*NC0AE Total Suspended Solids in Water by Gravimetry</b>			
Suspended Solids	17.3	mg/l	2.5

<b>SAMPLE CODE</b>	<b>817-2025-00038886</b>		
<b>Sample Name</b>	IN25.0273C		
<b>Sample Reference</b>	Shotover WWTP Discharge to Shotover River		
<b>Reception Date &amp; Time:</b>	14/04/2025 14:30	<b>Reception temperature:</b>	9.5 °C
<b>Analysis Started on:</b>	15/04/2025	<b>Analysis Ending Date:</b>	29/04/2025
<b>Product Type</b>	Surface water, raw water	<b>Sampler(s)</b>	
<b>Sampled Date &amp; Time</b>	14/04/2025 12:56		

RESULTS			LOQ
<b>*NC0AK Ammoniacal Nitrogen by Discrete Analyser</b>			
Ammonia nitrogen	13.8	mg/l	0.01
<b>*ZMJU7 Enumeration of Escherichia coli by Membrane Filtration</b>			
Escherichia coli	10	cfu/100 ml	1
<b>*NC0AF pH in Water by Manual Electrode (Tested beyond 15 minute APHA holding time)</b>			
pH	7.5		0.1
<b>*NC05B Total Biochemical Oxygen Demand (TBOD 5 Days) by Electrode</b>			
Biochemical oxygen demand (BOD)	16	mg/l	2
<b>*NC03M Total Nitrogen in Water by Discrete Analyser (Trace)</b>			
Total Nitrogen (N)	19.7	mg/l	0.01
<b>*NC04C Total Oxidised Nitrogen in Water by Discrete Analyser</b>			
Total Oxidised Nitrogen	0.99	mg/l	0.01
<b>*NC76G Total Phosphorus in Water by Discrete Analyser (Trace)</b>			
Total phosphorus	2.85	mg/l	0.01
<b>*NC0AE Total Suspended Solids in Water by Gravimetry</b>			
Suspended Solids	26.6	mg/l	2.5

## Food & Water Testing

SAMPLE CODE		817-2025-00038887	
Sample Name	IN25.0273D		
Sample Reference	Approx 200m D/S of discharge Shotover River		
Reception Date & Time:	14/04/2025 14:30	Reception temperature:	9.5 °C
Analysis Started on:	15/04/2025	Analysis Ending Date:	29/04/2025
Product Type	Surface water, raw water	Sampler(s)	
Sampled Date & Time	14/04/2025 13:06		

RESULTS		LOQ	
⑨*NC0AK	Ammoniacal Nitrogen by Discrete Analyser		
	Ammonia nitrogen	0.66	mg/l
			0.01
*ZMJU7	Enumeration of Escherichia coli by Membrane Filtration		
	Escherichia coli	28	cfu/100 ml
			1
*NC0AF	pH in Water by Manual Electrode (Tested beyond 15 minute APHA holding time)		
	pH	7.8	
			0.1
*NC05B	Total Biochemical Oxygen Demand (TBOD 5 Days) by Electrode		
	Biochemical oxygen demand (BOD)	5	mg/l
			2
*NC03M	Total Nitrogen in Water by Discrete Analyser (Trace)		
	Total Nitrogen (N)	1.18	mg/l
			0.01
*NC04C	Total Oxidised Nitrogen in Water by Discrete Analyser		
	Total Oxidised Nitrogen	0.21	mg/l
			0.01
*NC76G	Total Phosphorus in Water by Discrete Analyser (Trace)		
	Total phosphorus	0.16	mg/l
			0.01
*NC0AE	Total Suspended Solids in Water by Gravimetry		
	Suspended Solids	8.3	mg/l
			2.5

SAMPLE CODE		817-2025-00038888	
Sample Name	IN25.0273E		
Sample Reference	U/S of Kawarau River		
Reception Date & Time:	14/04/2025 14:30	Reception temperature:	9.5 °C
Analysis Started on:	15/04/2025	Analysis Ending Date:	30/04/2025
Product Type	Surface water, raw water	Sampler(s)	
Sampled Date & Time	14/04/2025 12:28		

RESULTS			LOQ	
⑨*NC0AK	Ammoniacal Nitrogen by Discrete Analyser			
	Ammonia nitrogen	0.01	mg/l	0.01
*ZMJU7	Enumeration of Escherichia coli by Membrane Filtration			
	Escherichia coli	53	cfu/100 ml	1
*NC0AF	pH in Water by Manual Electrode (Tested beyond 15 minute APHA holding time)			
	pH	7.3		0.1
*NC05B	Total Biochemical Oxygen Demand (TBOD 5 Days) by Electrode			
	Biochemical oxygen demand (BOD)	<2	mg/l	2
*NC03M	Total Nitrogen in Water by Discrete Analyser (Trace)			
	Total Nitrogen (N)	0.14	mg/l	0.01
*NC04C	Total Oxidised Nitrogen in Water by Discrete Analyser			
	Total Oxidised Nitrogen	0.08	mg/l	0.01
*NC76G	Total Phosphorus in Water by Discrete Analyser (Trace)			
	Total phosphorus	<0.01	mg/l	0.01

## Food & Water Testing

RESULTS	LOQ
---------	-----

### \*NC0AE Total Suspended Solids in Water by Gravimetry

Suspended Solids <2.5 mg/l 2.5

SAMPLE CODE 817-2025-00038889

Sample Name IN25.0273F

Sample Reference D/S of Kawarau River

Reception Date & Time: 14/04/2025 14:30

Analysis Started on: 15/04/2025

Product Type Surface water, raw water

Sampled Date & Time 14/04/2025 11:30

Reception temperature: 9.5 °C

Analysis Ending Date: 30/04/2025

Sampler(s)

RESULTS	LOQ
---------	-----

### ⑨\*NC0AK Ammoniacal Nitrogen by Discrete Analyser

Ammonia nitrogen 0.03 mg/l 0.01

### \*ZMJU7 Enumeration of Escherichia coli by Membrane Filtration

Escherichia coli 2 cfu/100 ml 1

### \*NC0AF pH in Water by Manual Electrode (Tested beyond 15 minute APHA holding time)

pH 7.9 0.1

### \*NC05B Total Biochemical Oxygen Demand (TBOD 5 Days) by Electrode

Biochemical oxygen demand (BOD) <2 mg/l 2

### \*NC03M Total Nitrogen in Water by Discrete Analyser (Trace)

Total Nitrogen (N) 0.07 mg/l 0.01

### \*NC04C Total Oxidised Nitrogen in Water by Discrete Analyser

Total Oxidised Nitrogen 0.03 mg/l 0.01

### \*NC76G Total Phosphorus in Water by Discrete Analyser (Trace)

Total phosphorus <0.01 mg/l 0.01

### \*NC0AE Total Suspended Solids in Water by Gravimetry

Suspended Solids 4.0 mg/l 2.5

## LIST OF METHODS

NC03M Total Nitrogen in Water by Discrete Analyser (Trace):

APHA Online Edition 4500-P J/4500-NH

NC05B Total Biochemical Oxygen Demand (TBOD 5 Days) by

Electrode: APHA Online Edition 5210 B

NC0AF pH in Water by Manual Electrode (Tested beyond 15

minute APHA holding time): APHA 24th Edition 4500-H B

NC76G Total Phosphorus in Water by Discrete Analyser

(Trace): APHA Online Edition 4500-P B/J mod.

NC04C Total Oxidised Nitrogen in Water by Discrete Analyser:

APHA Online Edition 4500-NO3 H

NC0AE Total Suspended Solids in Water by Gravimetry: APHA

Online Edition 2540 D

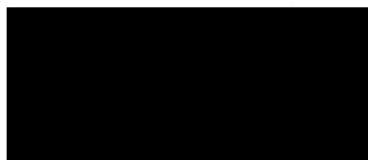
NC0AK Ammoniacal Nitrogen by Discrete Analyser: ISBN

0117516139 mod.

ZMJU7 Escherichia coli E (Water) [NZ Water] <1 >8 000 /100 ml

(0) mTEC Agar-F: US-EPA 1603:2014

Signature



## EXPLANATORY NOTE

## Food & Water Testing

- 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
- ⑨ Test is RLP accredited
- ⑩ Test is subcontracted within Eurofins group and is RLP accredited
- \*Test was performed at Eurofins ELS Limited, 142 Esk Street, Invercargill

**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

✗ (Unsatisfactory) means does not meet the specification

✓ (Satisfactory) means meets the specification

**MAV** means Maximum Allowable Value

The Customer acknowledges and accepts that: (a) where Eurofins is not responsible for sampling, the test result(s) in this report apply only to the sample as received. Customer 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 product.

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 43 Detroit Drive, Rolleston, Christchurch, 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.

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 Eurofins water sampling service follows methodology based on AS/NZS 5667 and / or best practice to collect and transport samples that are fit for the purpose of analytical testing. 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 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.

The Customer shall not alter any report or other Output provided to the Customer by Eurofins or misrepresent the contents of such Outputs in any way. The Customer shall be entitled to make copies for its internal purposes only.

The Customer may only reproduce or publish any report or document provided to the Customer by Eurofins in full without alteration. Eurofins' name, logo or service marks, or any other means of identification cannot be used in any publication by the Customer, unless the Customer has obtained the prior written consent of 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

**EUROFINS ELS LIMITED IS A MINISTRY FOR PRIMARY INDUSTRIES  
RECOGNISED LABORATORY UNDER SECTION 101 OF THE ANIMAL PRODUCTS ACT:1999.**