

## Food &amp; Water Testing

## ANALYTICAL REPORT

REPORT CODE

AR-25-NC-012869-01

REPORT DATE

07/05/2025

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-00215596

Contract:

Emergency Discharge to Shotover River

Purchase Order Number:

Submission Reference:

SAMPLE CODE

817-2025-00042889

Sample Name

GT7800RC

Sample Reference

U/S WWTP and SH6 Bridge

Reception Date &amp; Time:

28/04/2025 14:35

Reception temperature:

11.1 °C

Analysis Started on:

28/04/2025

Analysis Ending Date:

07/05/2025

Product Type

Surface water, raw water

Sampler(s)

Sampled Date &amp; Time

28/04/2025 12:03

## RESULTS

## LOQ

⑩*NC0AK Ammoniacal Nitrogen by Discrete Analyser				
Ammonia nitrogen	<0.01	mg/l	0.01	
②NW340 Chlorophyll a				
Chlorophyll A	<1.9	µg/l	1.9	
*ZMJU7 Enumeration of Escherichia coli by Membrane Filtration				
Escherichia coli	9	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)	<0.01	mg/l	0.01	
*NC04C Total Oxidised Nitrogen in Water by Discrete Analyser				
Total Oxidised Nitrogen	0.02	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	2.5	mg/l	2.5	
⑩*NC03Q Turbidity in Water by Nephelometry				
Turbidity	1.2	NTU	0.1	

## Food & Water Testing

SAMPLE CODE		817-2025-00042890	
Sample Name	GT7790RC		
Sample Reference	Final Discharge Post UV		
Reception Date & Time:	28/04/2025 14:35	Reception temperature:	11.1 °C
Analysis Started on:	28/04/2025	Analysis Ending Date:	07/05/2025
Product Type	Treated Effluent	Sampler(s)	
Sampled Date & Time	28/04/2025 13:44		

RESULTS		LOQ		
⑨*NC0AK	Ammoniacal Nitrogen by Discrete Analyser			
	Ammonia nitrogen	0.12	mg/l	0.01
②NW340	Chlorophyll a			
	Chlorophyll A	3.6	µg/l	1.9
*ZMJU7	Enumeration of Escherichia coli by Membrane Filtration			
	Escherichia coli	4	cfu/100 ml	1
*NC0AF	pH in Water by Manual Electrode (Tested beyond 15 minute APHA holding time)			
	pH	7.0		0.1
*NC05B	Total Biochemical Oxygen Demand (TBOD 5 Days) by Electrode			
	Biochemical oxygen demand (BOD)	<6	mg/l	2
*NC03M	Total Nitrogen in Water by Discrete Analyser (Trace)			
	Total Nitrogen (N)	15.6	mg/l	0.01
*NC04C	Total Oxidised Nitrogen in Water by Discrete Analyser			
	Total Oxidised Nitrogen	12	mg/l	0.01
*NC76G	Total Phosphorus in Water by Discrete Analyser (Trace)			
	Total phosphorus	0.24	mg/l	0.01
*NC0AE	Total Suspended Solids in Water by Gravimetry			
	Suspended Solids	<2.5	mg/l	2.5
⑨*NC03Q	Turbidity in Water by Nephelometry			
	Turbidity	1.4	NTU	0.1

SAMPLE CODE		817-2025-00042891	
Sample Name	GT7810RC		
Sample Reference	Shotover WWTP Discharge to Shotover River		
Reception Date & Time:	28/04/2025 14:35	Reception temperature:	11.1 °C
Analysis Started on:	28/04/2025	Analysis Ending Date:	07/05/2025
Product Type	Surface water, raw water	Sampler(s)	
Sampled Date & Time	28/04/2025 13:05		

RESULTS			LOQ	
①*NC0AK	Ammoniacal Nitrogen by Discrete Analyser			
	Ammonia nitrogen	0.43	mg/l	0.01
②NW340	Chlorophyll a			
	Chlorophyll A	9.6	µg/l	1.9
*ZMJU7	Enumeration of Escherichia coli by Membrane Filtration			
	Escherichia coli	15	cfu/100 ml	1
*NC0AF	pH in Water by Manual Electrode (Tested beyond 15 minute APHA holding time)			
	pH	7.1		0.1
*NC05B	Total Biochemical Oxygen Demand (TBOD 5 Days) by Electrode			
	Biochemical oxygen demand (BOD)	3	mg/l	2

## Food & Water Testing

RESULTS			LOQ
*NC03M	<b>Total Nitrogen in Water by Discrete Analyser (Trace)</b>		
	Total Nitrogen (N)	13.5	mg/l
			0.01
*NC04C	<b>Total Oxidised Nitrogen in Water by Discrete Analyser</b>		
	Total Oxidised Nitrogen	12	mg/l
			0.01
*NC76G	<b>Total Phosphorus in Water by Discrete Analyser (Trace)</b>		
	Total phosphorus	0.25	mg/l
			0.01
*NC0AE	<b>Total Suspended Solids in Water by Gravimetry</b>		
	Suspended Solids	3.5	mg/l
			2.5
②NC03Q	<b>Turbidity in Water by Nephelometry</b>		
	Turbidity	1.8	NTU
			0.1

<b>SAMPLE CODE</b>		<b>817-2025-00042892</b>	
<b>Sample Name</b>		GT7820RC	
<b>Sample Reference</b>		Approx 200m D/S of Discharge Shotover River	
<b>Reception Date &amp; Time:</b>		28/04/2025 14:35	<b>Reception temperature:</b> 11.1 °C
<b>Analysis Started on:</b>		28/04/2025	<b>Analysis Ending Date:</b> 07/05/2025
<b>Product Type</b>		Surface water, raw water	<b>Sampler(s)</b> <span style="background-color: black; color: black;">XXXXXXXXXX</span>
<b>Sampled Date &amp; Time</b>		28/04/2025 12:48	

RESULTS			LOQ
②NC0AK	<b>Ammoniacal Nitrogen by Discrete Analyser</b>		
	Ammonia nitrogen	0.85	mg/l
			0.01
②NW340	<b>Chlorophyll a</b>		
	Chlorophyll A	16.8	µg/l
			1.9
*ZMJU7	<b>Enumeration of Escherichia coli by Membrane Filtration</b>		
	Escherichia coli	23	cfu/100 ml
			1
*NC0AF	<b>pH in Water by Manual Electrode (Tested beyond 15 minute APHA holding time)</b>		
	pH	7.9	
			0.1
*NC05B	<b>Total Biochemical Oxygen Demand (TBOD 5 Days) by Electrode</b>		
	Biochemical oxygen demand (BOD)	2	mg/l
			2
*NC03M	<b>Total Nitrogen in Water by Discrete Analyser (Trace)</b>		
	Total Nitrogen (N)	2.11	mg/l
			0.01
*NC04C	<b>Total Oxidised Nitrogen in Water by Discrete Analyser</b>		
	Total Oxidised Nitrogen	0.97	mg/l
			0.01
*NC76G	<b>Total Phosphorus in Water by Discrete Analyser (Trace)</b>		
	Total phosphorus	0.18	mg/l
			0.01
*NC0AE	<b>Total Suspended Solids in Water by Gravimetry</b>		
	Suspended Solids	3.6	mg/l
			2.5
②NC03Q	<b>Turbidity in Water by Nephelometry</b>		
	Turbidity	3.2	NTU
			0.1

<b>SAMPLE CODE</b>		<b>817-2025-00042893</b>	
<b>Sample Name</b>		GT7840RC	
<b>Sample Reference</b>		U/S of Kawarau River	
<b>Reception Date &amp; Time:</b>		28/04/2025 14:35	<b>Reception temperature:</b> 11.1 °C
<b>Analysis Started on:</b>		28/04/2025	<b>Analysis Ending Date:</b> 07/05/2025
<b>Product Type</b>		Surface water, raw water	<b>Sampler(s)</b> <span style="background-color: black; color: black;">XXXXXXXXXX</span>
<b>Sampled Date &amp; Time</b>		28/04/2025 12:18	

## Food & Water Testing

	RESULTS	LOQ
<b>*NC0AK Ammoniacal Nitrogen by Discrete Analyser</b>		
Ammonia nitrogen	<0.01 mg/l	0.01
<b>*NW340 Chlorophyll a</b>		
Chlorophyll A	2.9 µg/l	1.9
<b>*ZMJU7 Enumeration of Escherichia coli by Membrane Filtration</b>		
Escherichia coli	18 cfu/100 ml	1
<b>*NC0AF pH in Water by Manual Electrode (Tested beyond 15 minute APHA holding time)</b>		
pH	7.9	0.1
<b>*NC05B Total Biochemical Oxygen Demand (TBOD 5 Days) by Electrode</b>		
Biochemical oxygen demand (BOD)	2 mg/l	2
<b>*NC03M Total Nitrogen in Water by Discrete Analyser (Trace)</b>		
Total Nitrogen (N)	0.04 mg/l	0.01
<b>*NC04C Total Oxidised Nitrogen in Water by Discrete Analyser</b>		
Total Oxidised Nitrogen	0.01 mg/l	0.01
<b>*NC76G Total Phosphorus in Water by Discrete Analyser (Trace)</b>		
Total phosphorus	<0.01 mg/l	0.01
<b>*NC0AE Total Suspended Solids in Water by Gravimetry</b>		
Suspended Solids	<2.5 mg/l	2.5
<b>*NC03Q Turbidity in Water by Nephelometry</b>		
Turbidity	0.65 NTU	0.1

<b>SAMPLE CODE</b>	<b>817-2025-00042894</b>
<b>Sample Name</b>	GT7850RC
<b>Sample Reference</b>	D/S of Kawarau River
<b>Reception Date &amp; Time:</b>	28/04/2025 14:35
<b>Analysis Started on:</b>	28/04/2025
<b>Product Type</b>	Surface water, raw water
<b>Sampled Date &amp; Time</b>	28/04/2025 11:44
<b>Reception temperature:</b>	11.1 °C
<b>Analysis Ending Date:</b>	07/05/2025
<b>Sampler(s)</b>	

	RESULTS	LOQ
<b>*NC0AK Ammoniacal Nitrogen by Discrete Analyser</b>		
Ammonia nitrogen	0.03 mg/l	0.01
<b>*NW340 Chlorophyll a</b>		
Chlorophyll A	<1.9 µg/l	1.9
<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	7.9	0.1
<b>*NC05B Total Biochemical Oxygen Demand (TBOD 5 Days) by Electrode</b>		
Biochemical oxygen demand (BOD)	<2 mg/l	2
<b>*NC03M Total Nitrogen in Water by Discrete Analyser (Trace)</b>		
Total Nitrogen (N)	0.10 mg/l	0.01
<b>*NC04C Total Oxidised Nitrogen in Water by Discrete Analyser</b>		
Total Oxidised Nitrogen	0.05 mg/l	0.01
<b>*NC76G Total Phosphorus in Water by Discrete Analyser (Trace)</b>		
Total phosphorus	<0.01 mg/l	0.01
<b>*NC0AE Total Suspended Solids in Water by Gravimetry</b>		

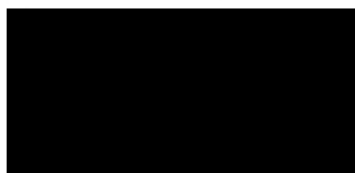
## Food & Water Testing

RESULTS			LOQ
*NC0AE	<b>Total Suspended Solids in Water by Gravimetry</b>		
	Suspended Solids	<2.5 mg/l	2.5
⑨NC03Q	<b>Turbidity in Water by Nephelometry</b>		
	Turbidity	1.1 NTU	0.1

### LIST OF METHODS

NC03M	<b>Total Nitrogen in Water by Discrete Analyser (Trace):</b> APHA Online Edition 4500-P J/4500-NH	NC03Q	<b>Turbidity in Water by Nephelometry:</b> APHA 24th Edition 2130 B mod.
NC04C	<b>Total Oxidised Nitrogen in Water by Discrete Analyser:</b> APHA Online Edition 4500-NO3 H	NC05B	<b>Total Biochemical Oxygen Demand (TBOD 5 Days) by Electrode:</b> APHA Online Edition 5210 B
NC0AE	<b>Total Suspended Solids in Water by Gravimetry:</b> APHA Online Edition 2540 D	NC0AF	<b>pH in Water by Manual Electrode (Tested beyond 15 minute APHA holding time):</b> APHA 24th Edition 4500-H B
NC0AK	<b>Ammoniacal Nitrogen by Discrete Analyser:</b> ISBN 0117516139 mod.	NC76G	<b>Total Phosphorus in Water by Discrete Analyser (Trace):</b> APHA Online Edition 4500-P B/J mod.
NW340	<b>Chlorophyll a:</b> APHA Online Edition 10200 H	ZMJU7	<b>Escherichia coli E (Water) [NZ Water] &lt;1 &gt;8 000 /100 ml (0) mTEC Agar-F:</b> US-EPA 1603:2014

Signature



### 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
- 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

## Food & Water Testing

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.

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Unless otherwise stated, all tests in this analytical report (except for subcontracted tests) are performed at 43 Detroit Drive, Rolleston, Christchurch, NEW ZEALAND.

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