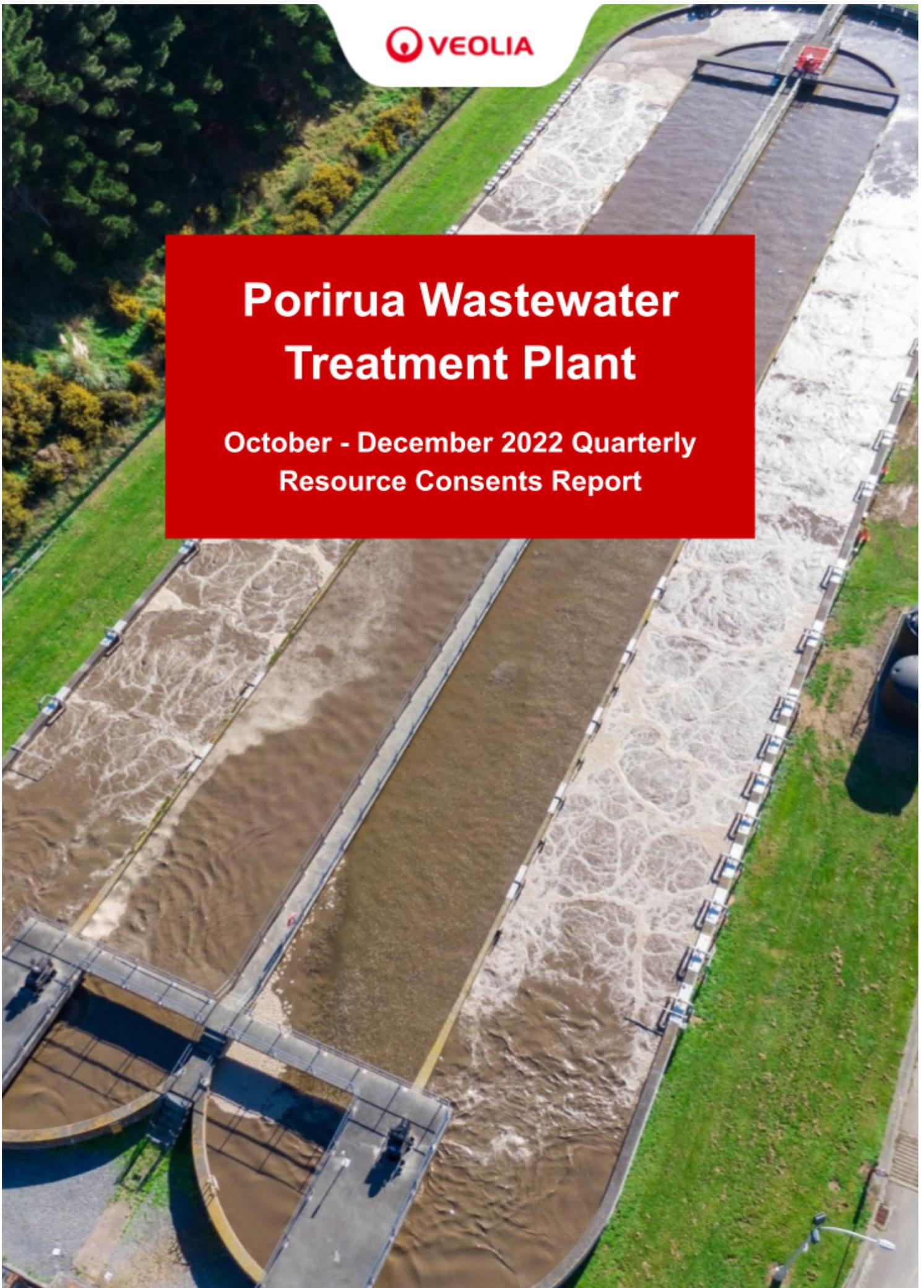




# Porirua Wastewater Treatment Plant

October - December 2022 Quarterly  
Resource Consents Report



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## CONTROL SHEET

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**Document Title:** Porirua Wastewater Treatment Plant October - December 2022 Quarterly Resource Consents Report

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**Authorised by:** Alex Phelan

## DOCUMENT CONTROL REGISTER

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Version	Status	Date	Details of Revision
0	Draft	28/01/2023	Original version for review.
1	Final	28/01/2023	Internally reviewed.

## EXECUTIVE SUMMARY

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The following report was prepared by Veolia on behalf of the Porirua City Council (PCC) for the Greater Wellington Regional Council (GWRC). This report includes results and observations that satisfy the reporting requirements of the following Porirua Wastewater Treatment Plant resource consents:

### WGN980083 [33805]

The Porirua WWTP is governed by the resource consent under the Greater Wellington Regional Council consent file number WGN980083. In general, the consent allows the discharge of treated and partially treated effluent from the Porirua City Council's Wastewater Treatment Plant at Rukutane Point through an existing outfall at or about map reference NZMS 260:R27;320.097.

The report will cover the quarterly period from October - December 2022 as requested in this resource consent. The following is a brief overview of the compliance with the consent conditions:

Resource Consent Condition	Compliant/Non-Compliant/Not Applicable
11	Compliant
13	Compliant
14	Compliant
15	Compliant
18	Compliant
21	Compliant

Table 1: WGN980083 [33805] Resource Consent Condition Compliance

### WGN980083 (02)

The Porirua WWTP is governed by the resource consent under the Greater Wellington Regional Council consent file number WGN980083 (02). In general, the consent allows the discharge of contaminants from the Porirua City Council's Wastewater Treatment Plant to the air at the or about map reference NZMS 260: R27;632.096.

The report will cover the quarterly period from October - December 2022 as requested in this resource consent. The following is a brief overview of the compliance with the consent conditions:

Resource Consent Condition	Compliant/Non-Compliant/Not Applicable
8	Compliant
9	Compliant

Table 2: WGN980083 (02) Resource Consent Condition Compliance

### WGN980083 (03)

To occupy the coastal marine area with a concrete deflection wall and outfall structures, the resource consent under the Greater Wellington Regional Council consent file number WGN980083 (03) was obtained. There are no reporting requirements for this resource consent.

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## Condition (11)

After 1 October 2003, the permit holder shall sample the treated effluent at the sample point required by condition 9 and the following effluent standards shall apply:

- a. Based on daily 24 hour flow proportioned composite sampling, with a running geometric mean and 90 percentile calculated each day using 90 consecutive daily test results, the effluent shall meet the following standard:
  - i. Biochemical Oxygen Demand : Geometric mean of 90 day consecutive BOD5 values shall not exceed 30g/m<sup>3</sup> and no more than 10% of 90 consecutive daily values shall exceed 75g/m<sup>3</sup>.
  - ii. Suspended Solids : Geometric mean of 90 consecutive daily suspended solids values shall not exceed 30g/m<sup>3</sup> and no more than 10% of 90 consecutive daily values shall exceed 75g/m<sup>3</sup>.
- b. Based on no fewer than 20 representative grab samples per month, (such samples shall be taken from the date of commencement of this permit, on separate days per month between the hours of 9am and 5pm), the effluent shall not exceed the following standard:
  - i. Faecal Coliform Bacteria: Geometric mean of 1000 per 100 millilitres and no more than 10% of monthly samples shall exceed 2,000 per 100 millilitres.
- c. Based on no fewer than one flow proportioned 24 hour composite sample collected on a normal Monday to Friday working day on a quarterly basis, concentrations of metals and other specified compounds shall not exceed the following limits:

Arsenic	0.5g/m <sup>3</sup>
Cadmium as the element	0.05 g/m <sup>3</sup>
Chromium	0.2 g/m <sup>3</sup>
Copper as the element	0.8 g/m <sup>3</sup>
Nickel as the element	0.05 g/m <sup>3</sup>
Lead as the element	0.5 g/m <sup>3</sup>
Zinc as the element	2.0 g/m <sup>3</sup>
Mercury as the element	0.002 g/m <sup>3</sup>
Phenol	0.2 g/m <sup>3</sup>
Cyanide as CN	0.1 g/m <sup>3</sup>
Chlorinated hydrocarbons	0.01 g/m <sup>3</sup>

### Section (a)

Below is a summary of the geometric mean and 90th percentile for the Biochemical Oxygen Demand and the Suspended Solids daily analytical results.

Please note that clarification was provided by GWRC regarding Condition (11) (a). The methodology adopted in this report will be the 10% of the 90 consecutive days.

(i) Final Effluent Biochemical Oxygen Demand

Day	October 2022			November 2022			December 2022		
	Results	Geometric Mean	Percent Compliance	Results	Geometric Mean	Percent Compliance	Results	Geometric Mean	Percent Compliance
	g/m <sup>3</sup>	g/m <sup>3</sup>	%	g/m <sup>3</sup>	g/m <sup>3</sup>	%	g/m <sup>3</sup>	g/m <sup>3</sup>	%
1	9	11	100	4	11	100	4	12	100
2	24	11	100	4	11	100	6	11	100
3	22	11	100	11	11	100	11	11	100
4	16	11	100	8	11	100	3	11	100
5	29	11	100	8	11	100	4	11	100
6	6	11	100	10	11	100	6	11	100
7	6	11	100	14	11	100	6	11	100
8	9	11	100	6	11	100	4	11	100
9	5	11	100	15	11	100	6	10	100
10	11	11	100	10	11	100	3	10	100
11	6	11	100	24	11	100	3	10	100
12	8	11	100	58	12	100	9	10	100
13	8	11	100	11	12	100	6	10	100
14	7	11	100	12	12	100	6	10	100
15	34	11	100	13	12	100	6	10	100
16	9	11	100	10	12	100	3	10	100
17	9	12	100	13	12	100	6	10	100
18	9	12	100	15	12	100	6	9	100
19	39	12	100	13	12	100	6	9	100
20	18	12	100	22	12	100	4	9	100
21	7	12	100	43	12	100	6	9	100
22	9	12	100	11	12	100	3	9	100
23	11	12	100	9	12	100	6	9	100
24	11	12	100	5	12	100	6	9	100
25	16	12	100	4	12	100	6	8	100
26	19	12	100	10	12	100	12	8	100
27	9	12	100	4	12	100	6	8	100
28	4	12	100	4	12	100	21	8	100
29	4	12	100	3	12	100	24	8	100
30	4	11	100	4	12	100	6	8	100
31	10	11	100	-	-	-	3	8	100
Limits	75	30	90	75	30	90	75	30	90

Table 3: BOD<sub>5</sub> Geometric Mean and Percent Compliance

Please note that analytical results highlighted in amber are above the 30g/m<sup>3</sup> geometric mean limit. Analytical results highlighted in red are above the 75g/m<sup>3</sup> percent compliance limit.

The final effluent Biochemical Oxygen Demand was compliant with the Recourse Consent during this reporting period.

(ii) Final Effluent Suspended Solids

Day	October 2022			November 2022			December 2022		
	Results	Geometric Mean	Percent Compliance	Results	Geometric Mean	Percent Compliance	Results	Geometric Mean	Percent Compliance
	g/m <sup>3</sup>	g/m <sup>3</sup>	%	g/m <sup>3</sup>	g/m <sup>3</sup>	%	g/m <sup>3</sup>	g/m <sup>3</sup>	%
1	5	6	100	5	7	100	6	8	100
2	29	6	100	3	7	100	9	8	100
3	17	6	100	4	7	100	15	8	100
4	9	6	100	4	7	100	6	8	100
5	29	6	100	6	7	100	6	8	100
6	2	6	100	4	7	100	6	8	100
7	3	6	100	4	7	100	7	8	100
8	6	6	100	6	7	100	6	7	100
9	4	6	100	9	7	100	6	7	100
10	4	6	100	4	7	100	6	7	100
11	4	6	100	52	7	100	6	7	100
12	5	6	100	62	7	100	7	7	100
13	5	6	100	4	7	100	6	7	100
14	3	6	100	5	7	100	6	7	100
15	58	7	100	5	7	100	6	7	100
16	4	7	100	3	7	100	6	7	100
17	4	7	100	5	7	100	6	7	100
18	4	7	100	5	7	100	6	7	100
19	75	7	100	5	7	100	6	7	100
20	48	7	100	26	7	100	6	7	100
21	2	7	100	60	8	100	6	7	100
22	3	7	100	2	7	100	6	7	100
23	12	7	100	3	7	100	6	7	100
24	4	7	100	6	7	100	6	7	100
25	16	7	100	3	7	100	6	7	100
26	63	7	100	31	8	100	21	7	100
27	4	7	100	11	8	100	6	7	100
28	5	7	100	11	8	100	15	7	100
29	3	7	100	2	8	100	40	7	100
30	3	7	100	10	8	100	6	7	100
31	6	7	100	-	-	-	6	7	100
Limits	75	30	90	75	30	90	75	30	90

Table 4: Suspended Solid Geometric Mean and Percent Compliance

Please note that analytical results highlighted in amber are above the 30g/m<sup>3</sup> geometric mean limit. Analytical results highlighted in red are above the 75g/m<sup>3</sup> percent compliance limit.

The final effluent Suspended solids was compliant with the Recourse Consent during this reporting period.

## Section (b)

Below is a summary of the geometric mean and percent compliance for faecal coliform analytical results.

**In July 2015, an agreement with GWRC was made to use only the first 20 faecal coliform analytical results for compliance purposes. A maximum of two samples above 2,000cfu/100mL are permissible.**

Day	October 2022			November 2022			December 2022		
	Results	Geometric Mean	Percent Compliance	Results	Geometric Mean	Percent Compliance	Results	Geometric Mean	Percent Compliance
	cfu/100mL	cfu/100mL	%	cfu/100mL	cfu/100mL	%	cfu/100mL	cfu/100mL	%
1	74			430			10		
2	88			170			10		
3	48			580			10		
4	32			95			10		
5	30			34			32		
6	60			47			10		
7	46			60			28		
8	3599			310			374		
9	53			115			245		
10	190			990			10		
11	34			115			10		
12	70			56			10		
13	97			35			32		
14	45			97			55		
15	27			195			245		
16	6			255			10		
17	115			11			10		
18	64			125			14		
19	238			89			10		
20	85			62			1000		
21	51			59			14		
22	30			30			14		
23	39			120			10		
24	37			37			10		
25	67			42			10		
26	120			32			14		
27	1145			51			1140		
28	1521			71			10		
29	78			74			70		
30	47			38	113	100	10		
31	97	70	95	-	-	-	10	28	100
Limits	2000	1000	85	2000	1000	85	2000	1000	85

Table 5: 20 Day Geometric Mean and Percent Compliance

Please note that analytical results highlighted in amber are above the 1000cfu/100mL geometric mean limit. Analytical results highlighted in red are above the 2000g/m<sup>3</sup> percent compliance limit.

The final effluent Fecal coliform was compliant with the Recourse Consent during this reporting period.

## Section (c)

Below is a summary of the quarterly metals and other specified compounds analytical results.

Compound	Units	Limit	27/10/2022
Arsenic	g/m <sup>3</sup>	0.5	0.002
Cadmium as the element	g/m <sup>3</sup>	0.05	0.00005
Chromium	g/m <sup>3</sup>	0.2	0.002
Copper as the element	g/m <sup>3</sup>	0.8	0.008
Nickel as the element	g/m <sup>3</sup>	0.05	0.020
Lead as the element	g/m <sup>3</sup>	0.5	0.001
Zinc as the element	g/m <sup>3</sup>	2.0	0.0002
Mercury as the element	g/m <sup>3</sup>	0.002	0.00005
Phenol	g/m <sup>3</sup>	0.2	0.020
Cyanide as CN	g/m <sup>3</sup>	0.1	0.005
Chlorinated hydrocarbons	g/m <sup>3</sup>	0.01	See Appendix ii

Table 6: Analytical Results for Quarterly Metals and other Specified Compounds

For full analytical results of the metals and other specified compounds as well as the breakdown of the chlorinated hydrocarbons see Appendix ii: Heavy Metals and Specified Compounds Results.

## Condition 13

The discharge shall not cause any of the following effects in the receiving waters beyond a 200 metre radius (the mixing zone) of the Rukutane Point outfall:

- The production of any conspicuous oil or grease films, scums or foams, or floatable or suspended material;
- Any conspicuous change in the colour or visual clarity of water;
- Any adverse effect on marine aquatic life.

Paragraphs (a) and (b) of this condition shall not apply to discharges during times of plant overflow or plant bypass. Paragraph (b) shall not apply to changes in colour or visual clarity of water which occur as a result of a freshwater lens on the surface of receiving water.

When shoreline samples are collected for Condition (14) an inspection is performed for conditions 13(a) and 13(b). The results of these inspections can be made available upon request.

## Condition 14

The permit holder shall monitor the enterococci and faecal coliform contents of the receiving waters at six shoreline locations between Titahi Bay Beach and Te Korohiwa Rocks. The shoreline monitoring locations shall include the following sites:

- At or about 200 metres generally eastwards of the outfall;
- At or about 200 metres generally southwestwards of the outfall; and
- Titahi Bay Beach

In addition, the permit holder shall establish a sample control site and measure background enterococci and faecal coliform contents of the coastal waters. All sampling locations shall be to the satisfaction of the Manager, Consents management, Wellington Regional Council.

Please note that the original control site posed a health and safety issue for the technician when collecting the sample. A meeting was held with GWRC on site 29th August 2019 regarding the relocation of the control site sampling location. GWRC agreed to the new sample location via e-mail on 12th September 2019 so the new control site is at the end of Whitireia Road. The following is a list of the seven sampling points and a map of their locations:

- Sampling Point 1 - Te Korohiwa Rocks
- Sampling Point 2 - West of Outfall
- Sampling Point 3 - East of Outfall
- Sampling Point 4 - Titahi Bay Beach South
- Sampling Point 5 - Titahi Bay Beach
- Sampling Point 6 - Mount Cooper
- Control Point - Whitireia Park

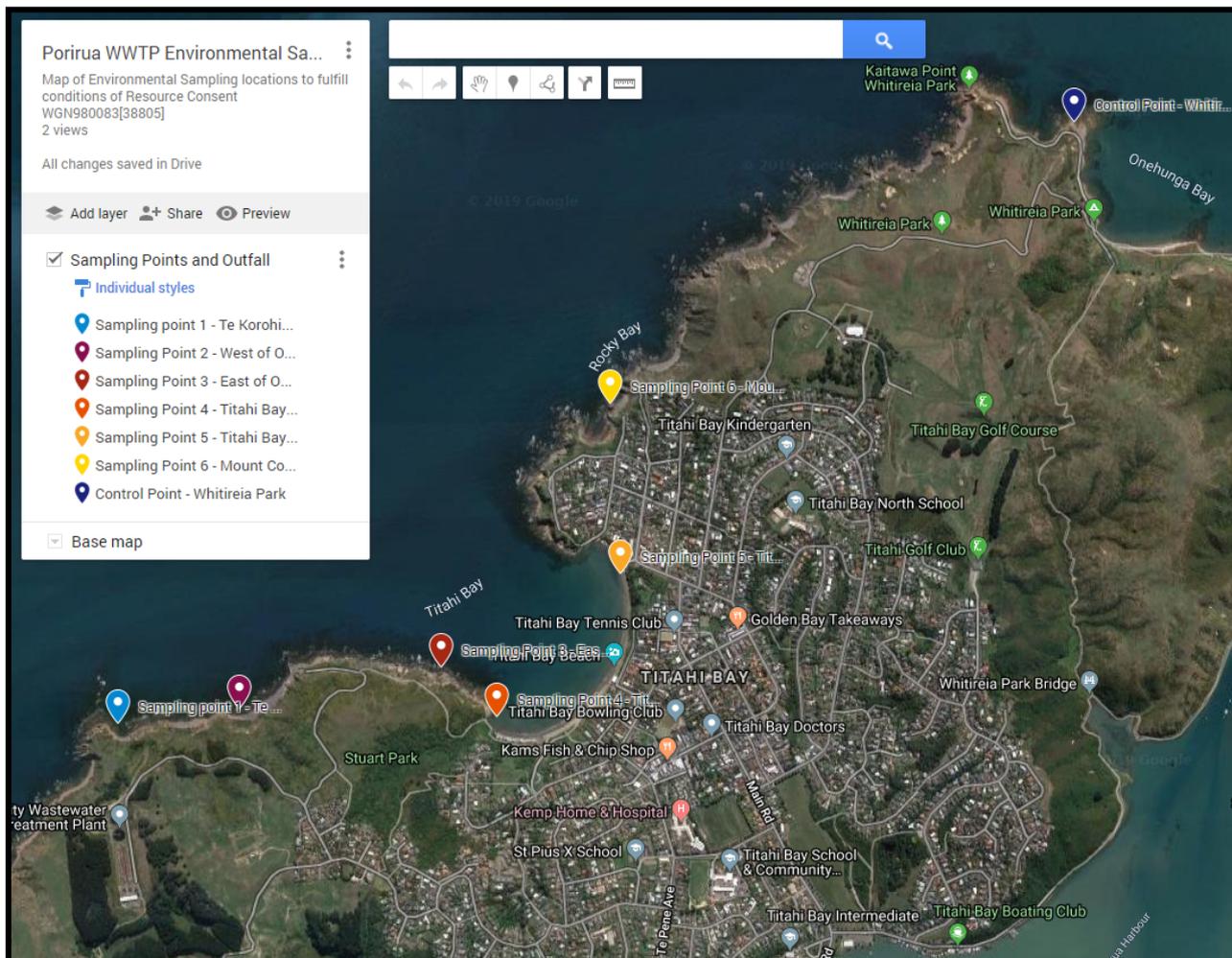


Figure 1: Shoreline Monitoring Sampling Sites

## Condition 15

The water at all sampling locations required by condition 14 shall be monitored for enterococci and faecal coliforms at least three monthly. ~~Between 1 April and 30 September and monthly between 1 October and 31 March, until such time as any new disinfection plant is commissioned. For the first 12 months after commissioning such monitoring shall be carried out on at least a monthly basis. Thereafter, the monitoring may be at such reduced intensity as determined by the Manager, Consents Management, Wellington Regional Council.~~

In the event of a discharge of partly or untreated sewage effluent due to either *plant malfunction*, or *plant overflow*, or *plant bypass*, the above said waters shall further be monitored at or about 24 hours, 72 hours, and 144 hours after that discharge commenced.

For each water sample required by this condition, the permit holder shall make record of the date, time, weather, wind and tidal conditions at its sampling location. These records for each preceding quarter shall be supplied to the Manager, Consents Management, Wellington Regional Council, in the quarterly monitoring report required by condition 17.

Shoreline samples are collected from all the sampling locations mentioned in Condition (14) during bypass or overflow events 24 hours, 72 hours, 144 hours after the discharge if there are no health and safety concerns. During a meeting with GWRC on the 29th August 2019, the interpretation of this condition by the resource consent office differed from the previous consent officer. It is now a requirement to collect a set of samples from the sampling locations once a month to comply with Condition (15). Prior to this, any bypass sampling was counted as the month sample.

Below is a summary of the bypass and overflow events that have occurred each month during this reporting quarter. The breakdown for each month and explanation of the events can be found in Condition (21).

Month	Bypass/Overflow Events	
	Consented	Non-Consented
October 2022	0	1
November 2022	0	1
December 2022	0	0

Table 7: Monthly Bypass and Overflow Events

All discharge and Shoreline monitoring samples were collected. Below are the results from each set of samples collected for the Bypass/Overflow events as well as the monthly Shoreline Monitoring Data. Analytical results from each set of samples collected can be found in Appendix I.

## 200m East of Outfall

Date	Time	Enterococci	Faecal Coliforms	Wind Direction	Wind Strength	Tide	Sea Conditions	WWTP Bypass/Overflow Event	Possible Source (if out of spec)
dd/mm/yyyy	hh:mm	cfu/100mL	cfu/100mL	--	--	--	--	Y/N	--
13/10/2022	06:05	1.8	3.6	S	Light	Low	Ebb	N	Monthly Sample
27/10/2022	19:00	4	10	S	Light	Low	Ebb	Y - 24hr	-
29/10/2022	08:46	10	82	S	Light	Low	Flood	Y - 72hr	-
1/11/2022	07:55	2	22	S	Light	Low	Ebb	Y - 144hr	-
15/11/2022	07:56	10	26	N	Moderate	Low	Ebb	N	Monthly Sample
17/11/2022	21:46	2	2	S	Moderate	Low	Flood	Y - 24hr	-
19/11/2022	17:30	42	54	N	Moderate	Low	Flood	Y - 72hr	-
22/11/2022	6:07	44	22	N	Moderate	Low	Ebb	Y - 144hr	-
16/12/2022	12:08	10	10	E	Light	Low	Ebb	N	Monthly Sample

## 200m West of Outfall

Date	Time	Enterococci	Faecal Coliforms	Wind Direction	Wind Strength	Tide	Sea Conditions	WWTP Bypass/Overflow Event	Possible Source (if out of spec)
dd/mm/yyyy	hh:mm	cfu/100mL	cfu/100mL	--	--	--	--	Y/N	--
13/10/2022	05:42	31	84	S	Light	Low	Ebb	N	Monthly Sample
27/10/2022	19:39	2	4	S	Light	Low	Ebb	Y - 24hr	-
29/10/2022	07:42	52	480	S	Light	Low	Flood	Y - 72hr	-
1/11/2022	08:17	2	2	S	Light	Low	Ebb	Y - 144hr	-
15/11/2022	07:37	12	4	N	Moderate	Low	Ebb	N	Monthly Sample
17/11/2022	22:26	2	2	S	Moderate	Low	Flood	Y - 24hr	-
19/11/2022	16:35	64	38	N	Moderate	Low	Flood	Y - 72hr	-
22/11/2022	5:25	4	8	N	Moderate	Low	Ebb	Y - 144hr	-
16/12/2022	12:08	10	10	E	Light	Low	Ebb	N	Monthly Sample

## Titahi Bay Beach South

Date	Time	Enterococci	Faecal Coliforms	Wind Direction	Wind Strength	Tide	Sea Conditions	WWTP Bypass/Overflow Event	Possible Source (if out of spec)
dd/mm/yyyy	hh:mm	cfu/100mL	cfu/100mL	--	--	--	--	Y/N	--
13/10/2022	07:57	68	25	S	Light	Low	Ebb	N	Monthly Sample
27/10/2022	18:47	14	36	S	Light	Low	Ebb	Y - 24hr	-
29/10/2022	07:35	260	240	S	Light	Low	Flood	Y - 72hr	-
1/11/2022	08:10	2	2	S	Light	Low	Ebb	Y - 144hr	-
15/11/2022	07:50	2	2	N	Moderate	Low	Ebb	N	Monthly Sample
17/11/2022	22:30	2	2	S	Moderate	Low	Flood	Y - 24hr	-
19/11/2022	16:27	130	64	N	Moderate	Low	Flood	Y - 72hr	-
22/11/2022	6:24	2	4	N	Moderate	Low	Ebb	Y - 144hr	-
16/12/2022	12:08	36	90	E	Light	Low	Ebb	N	Monthly Sample

## Titahi Bay Beach

Date	Time	Enterococci	Faecal Coliforms	Wind Direction	Wind Strength	Tide	Sea Conditions	WWTP Bypass/Overflow Event	Possible Source (if out of spec)
dd/mm/yyyy	hh:mm	cfu/100mL	cfu/100mL	--	--	--	--	Y/N	--
13/10/2022	08:15	190	3.6	S	Light	Low	Ebb	N	Monthly Sample
27/10/2022	20:35	6	24	S	Light	Low	Ebb	Y - 24hr	-
29/10/2022	07:57	290	240	S	Light	Low	Flood	Y - 72hr	-
1/11/2022	08:33	2	2	S	Light	Low	Ebb	Y - 144hr	-
15/11/2022	08:20	2	8	N	Moderate	Low	Ebb	N	Monthly Sample
17/11/2022	22:43	2	2	S	Moderate	Low	Flood	Y - 24hr	-
19/11/2022	16:50	100	98	N	Moderate	Low	Flood	Y - 72hr	-
22/11/2022	5:47	34	32	N	Moderate	Low	Ebb	Y - 144hr	-
16/12/2022	12:08	55	30	E	Light	Low	Ebb	N	Monthly Sample

## Te Korohiwa Rocks

Date	Time	Enterococci	Faecal Coliforms	Wind Direction	Wind Strength	Tide	Sea Conditions	WWTP Bypass/Overflow Event	Possible Source (if out of spec)
dd/mm/yyyy	hh:mm	cfu/100mL	cfu/100mL	--	--	--	--	Y/N	--
13/10/2022	07:25	33	54	S	Light	Low	Ebb	N	Monthly Sample
27/10/2022	19:45	2.0	4	S	Light	Low	Ebb	Y - 24hr	-
29/10/2022	09:30	10	22	S	Light	Low	Flood	Y - 72hr	-
1/11/2022	09:28	2.0	4	S	Light	Low	Ebb	Y - 144hr	-
15/11/2022	07:20	20	32	N	Moderate	Low	Ebb	N	Monthly Sample
17/11/2022	9:56	2	2	S	Moderate	Low	Flood	Y - 24hr	-
19/11/2022	17:46	34	50	N	Moderate	Low	Flood	Y - 72hr	-
22/11/2022	6:13	8	28	N	Moderate	Low	Ebb	Y - 144hr	-
16/12/2022	12:08	10	10	E	Light	Low	Ebb	N	Monthly Sample

## Mount Cooper

Date	Time	Enterococci	Faecal Coliforms	Wind Direction	Wind Strength	Tide	Sea Conditions	WWTP Bypass/Overflow Event	Possible Source (if out of spec)
dd/mm/yyyy	hh:mm	cfu/100mL	cfu/100mL	--	--	--	--	Y/N	--
13/10/2022	08:39	3.6	70	S	Light	Low	Ebb	N	Monthly Sample
27/10/2022	21:22	2	2	S	Light	Low	Ebb	Y - 24hr	-
29/10/2022	08:31	2	2	S	Light	Low	Flood	Y - 72hr	-
1/11/2022	07:30	2	24	S	Light	Low	Ebb	Y - 144hr	-
15/11/2022	08:50	20	8	N	Moderate	Low	Ebb	N	Monthly Sample
17/11/2022	22:04	2	4	S	Moderate	Low	Flood	Y - 24hr	-
19/11/2022	18:30	34	6	N	Moderate	Low	Flood	Y - 72hr	-
22/11/2022	6:47	18	20	N	Moderate	Low	Ebb	Y - 144hr	-
16/12/2022	12:08	10	10	E	Light	Low	Ebb	N	Monthly Sample

## Control

Date	Time	Enterococci	Faecal Coliforms	Wind Direction	Wind Strength	Tide	Sea Conditions	WWTP Bypass/Overflow Event	Possible Source (if out of spec)
dd/mm/yyyy	hh:mm	cfu/100mL	cfu/100mL	--	--	--	--	Y/N	--
13/10/2022	09:15	5.5	5.5	S	Light	Low	Ebb	N	Monthly Sample
27/10/2022	20:13	2	4	S	Light	Low	Ebb	Y - 24hr	-
29/10/2022	09:03	2	2	S	Light	Low	Flood	Y - 72hr	-
1/11/2022	09:01	2	2	S	Light	Low	Ebb	Y - 144hr	-
15/11/2022	09:25	8	10	N	Moderate	Low	Ebb	N	Monthly Sample
17/11/2022	21:22	2	4	S	Moderate	Low	Flood	Y - 24hr	-
19/11/2022	17:20	42	56	N	Moderate	Low	Flood	Y - 72hr	-
22/11/2022	7:20	12	26	N	Moderate	Low	Ebb	Y - 144hr	-
16/12/2022	12:08	10	10	E	Light	Low	Ebb	N	Monthly Sample

Please note that bathing beach guidelines were used to generate the colouring for the Enterococci samples. Because there are no bathing beach guidelines for faecal coliforms, fresh water guidelines were applied. The following are the limits for both bacterial species:

Bacterial Species	Amber Limit	Red Limit
	cfu/100mL	cfu/100mL
Enterococci	140	280
Faecal Coliforms	260	550

## Condition 18

Notwithstanding any enforcement action Wellington Regional Council may choose to take, should the criteria set out in conditions 10 or 11 be exceeded or breached, or the effects in condition 13 (a) – (c) be caused by the discharge, the permit holder shall undertake the following:

- Immediately notify the Manager, Consents Management, Wellington Regional Council.
- Immediately investigate the reason why the criteria was exceeded.
- Immediately identify and undertake whatever appropriate remedial action to the satisfaction of the Manager, Consents Management, Wellington Regional Council, to mitigate the effects.
- Forward within five working days to the Manager, Consents Management, Wellington Regional Council, a report on the steps taken to ensure that the criteria are not breached in the future.

None of the conditions have been exceeded or breached during the October to December 2022 reporting period.

## Condition 21

In the event of a plant malfunction or the discharge of untreated or partially treated effluent, the permit holder shall:

- Immediately notify both the Manager, Consents Management, Wellington Regional Council, and the Public Health Service.
- If required by Manager, Consents Management, Wellington Regional Council, provide within 48 hours a written report to the Manager, detailing manner and cause of the malfunction and the nature of the released effluent, and the steps taken (and being taken if appropriate) to remedy and control that discharge, and to prevent any such releases of untreated or partially treated effluent.

Date	Date of Notification	Duration	Volume Treated During Bypass	Total Volume of Bypass	Dilution Ratio	Consented	Cause
dd/ mmm/ yyyy	dd/ mmm/ yyyy	hrs:mins	m <sup>3</sup>	m <sup>3</sup>	--	Y/N	
27/10/2022	27/10/2022	5:21	15413	–	–	N	A power spike caused a shutdown of most of the equipment at the Porirua WWTP, including the SCADA, Pager alarm, and UV systems.
17/11/2022	17/11/2022	00:43	713	142	5:1	N	Failure in the level transmitter: The level transmitter sent out false readings, causing the bypass valve to open intermittently.

Table 8: Discharge Events

Please note that no volume could be calculated for the discharge on 27 October 2022 due to the power spike taking off all the instruments, SCADA and pager alarm system, therefore, no flow was recorded by SCADA. A report was submitted on 8 November 2022 regarding this incident.

## Condition 8

If required by the Manager, Consents Management, Wellington Regional Council, the permit holder shall carry out monitoring of air-borne pathogens to demonstrate compliance with condition 6 or 7. The monitoring shall be undertaken at six monthly intervals and the results forwarded to the Manager, Consents Management, Wellington Regional Council within one month of each survey being conducted. The location of the sample site shall be mutually agreed by the permit holder and the Manager, Consents Management, Wellington Regional Council. The survey shall be carried out by a standard method to the satisfaction of the Manager, Consents Management, Wellington Regional Council.

The Manager, Consents Management, Wellington Regional Council has not requested these surveys be performed.

## Condition 9

The permit holder shall keep a record of any complaints received. The complaints will be forwarded to the Manager, Consents Management, Wellington Regional Council, within twenty-four hours of the complaint being received by the permit holder. The permit holder shall endeavor to record the complainant's name, time of the incident, wind direction and speed, as well as the plant operating conditions at the time of the complaint.

There have been no complaints during the October to December 2022 reporting period.

**APPENDIX I: Shoreline Monitoring  
Data**

### Certificate of Analysis

#### Laboratory Reference: 221003-086

<b>Attention:</b>	Julian Villada	<b>Final Report:</b>	479955-0
<b>Client:</b>	VEOLIA WATER	<b>Report Issue Date:</b>	17-Oct-2022
<b>Address:</b>	127 Stewart Duff Drive, Rongotai, Wellington, 6022	<b>Received Date:</b>	13-Oct-2022
		<b>Sampled By:</b>	Veolia
<b>Client Reference:</b>	Porirua Shoreline Monthly	<b>Laboratory Activity Dates:</b>	13-Oct-2022 - 14-Oct-2022
<b>Purchase Order:</b>	7300208972	<b>Quote Reference :</b>	11592

Sample Details	WATERS	WATERS	WATERS	WATERS
<b>Lab Sample ID:</b>	221003-086-1	221003-086-2	221003-086-3	221003-086-4
<b>Client Sample ID:</b>				
<b>Sample Date/Time</b>	13/10/2022 06:05	13/10/2022 05:42	13/10/2022 05:57	13/10/2022 06:15
<b>Description:</b>	Porirua Location 1: 200m E of Outfall Grab 1Month	Porirua Location 2: 200m SW of Outfall Grab 1Month	Porirua Location 3: Titahi Bay Beach Point 1 Grab 1Month	Porirua Location 4: Titahi Bay Beach Point 2 Grab 1Month
<b>Microbiology</b>				
<b>Enterococci by Membrane Filtration</b>				
Enterococci	cfu/100 mL	<1.8	31	68
<b>Faecal coliforms by Membrane Filtration</b>				
Faecal coliforms	cfu/100 mL	3.6	84	25

Sample Details	WATERS	WATERS	WATERS
<b>Lab Sample ID:</b>	221003-086-5	221003-086-6	221003-086-7
<b>Client Sample ID:</b>			
<b>Sample Date/Time</b>	13/10/2022 05:25	13/10/2022 06:39	13/10/2022 07:15
<b>Description:</b>	Porirua Location 5: Te Horohiwa Rocks Grab 1Month	Porirua Location 6: Mount Cooper Coastal Grab 1Month	Porirua Sample Control Site Grab 1Mo nth
<b>Microbiology</b>			
<b>Enterococci by Membrane Filtration</b>			
Enterococci	cfu/100 mL	33	3.6
<b>Faecal coliforms by Membrane Filtration</b>			
Faecal coliforms	cfu/100 mL	54	70

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Reference Methods				
The sample(s) referred to in this report were analysed by the following method(s)				
Analyte	Method Reference	MDL	Samples	Location
<b>Microbiology</b>				
<b>Enterococci by Membrane Filtration</b>				
Enterococci	APHA (online edition) 9230 C	1 cfu/100 mL	All	Wellington
<b>Faecal coliforms by Membrane Filtration</b>				
Faecal coliforms	APHA (online edition) 9222 D	1 cfu/100 mL	All	Wellington
The method detection limit (MDL) listed is the limit attainable in a relatively clean matrix. If dilutions are required for analysis the detection limit may be higher. For more information please contact the Compliance and Projects Manager.				



### Certificate of Analysis

#### Laboratory Reference: 221027-170

<b>Attention:</b>	James Feary	<b>Final Report:</b>	481642-0
<b>Client:</b>	VEOLIA WATER	<b>Report Issue Date:</b>	31-Oct-2022
<b>Address:</b>	127 Stewart Duff Drive, Rongotai, Wellington, 6022	<b>Received Date:</b>	28-Oct-2022
<b>Client Reference:</b>	Porirua WWTP Discharge Shoreline	<b>Laboratory Activity Dates:</b>	28-Oct-2022 - 29-Oct-2022
<b>Purchase Order:</b>	7300208972	<b>Quote Reference :</b>	11592

Sample Details	WATERS	WATERS	WATERS	WATERS	
<b>Lab Sample ID:</b>	221027-170-1	221027-170-2	221027-170-3	221027-170-4	
<b>Client Sample ID:</b>					
<b>Sample Date/Time</b>	27/10/2022 19:00	27/10/2022 19:39	27/10/2022 18:47	27/10/2022 18:35	
<b>Description:</b>	Porirua Location 1: 200m E of Outfall Grab 1Month	Porirua Location 2: 200m SW of Outfall Grab 1Month	Porirua Location 3: Titahi Bay Beach Point 1 Grab 1Month	Porirua Location 4: Titahi Bay Beach Point 2 Grab 1Month	
<b>Microbiology</b>					
<b>Enterococci by Membrane Filtration</b>					
Enterococci	cfu/100 mL	4.0	<2.0	14	6.0
<b>Faecal coliforms by Membrane Filtration</b>					
Faecal coliforms	cfu/100 mL	10	4.0	36	24

Sample Details	WATERS	WATERS	WATERS	
<b>Lab Sample ID:</b>	221027-170-5	221027-170-6	221027-170-7	
<b>Client Sample ID:</b>				
<b>Sample Date/Time</b>	27/10/2022 19:22	27/10/2022 18:13	27/10/2022 17:45	
<b>Description:</b>	Porirua Location 5: Te Horohiwa Rocks Grab 1Month	Porirua Location 6: Mount Cooper Coastal Grab 1Month	Porirua Sample Control Site Grab 1Mo nth	
<b>Microbiology</b>				
<b>Enterococci by Membrane Filtration</b>				
Enterococci	cfu/100 mL	<2.0	<2.0	<2.0
<b>Faecal coliforms by Membrane Filtration</b>				
Faecal coliforms	cfu/100 mL	4.0	<2.0	4.0

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Reference Methods				
The sample(s) referred to in this report were analysed by the following method(s)				
Analyte	Method Reference	MDL	Samples	Location
<b>Microbiology</b>				
<b>Enterococci by Membrane Filtration</b>				
Enterococci	APHA (online edition) 9230 C	1 cfu/100 mL	All	Wellington
<b>Faecal coliforms by Membrane Filtration</b>				
Faecal coliforms	APHA (online edition) 9222 D	1 cfu/100 mL	All	Wellington
The method detection limit (MDL) listed is the limit attainable in a relatively clean matrix. If dilutions are required for analysis the detection limit may be higher. For more information please contact the Compliance and Projects Manager.				



### Certificate of Analysis

#### Laboratory Reference: 221029-061

<b>Attention:</b>	Julian Villada	<b>Final Report:</b>	<b>481643-0</b>
<b>Client:</b>	VEOLIA WATER	<b>Report Issue Date:</b>	31-Oct-2022
<b>Address:</b>	127 Stewart Duff Drive, Rongotai, Wellington, 6022	<b>Received Date:</b>	29-Oct-2022
<b>Client Reference:</b>	Porirua WWTP Discharge Shoreline	<b>Laboratory Activity Dates:</b>	29-Oct-2022 - 31-Oct-2022
<b>Purchase Order:</b>	7300208972	<b>Quote Reference :</b>	11592

Sample Details	WATERS	WATERS	WATERS	WATERS	
<b>Lab Sample ID:</b>	<b>221029-061-1</b>	<b>221029-061-2</b>	<b>221029-061-3</b>	<b>221029-061-4</b>	
<b>Client Sample ID:</b>					
<b>Sample Date/Time</b>	29/10/2022 05:42	29/10/2022 06:46	29/10/2022 05:35	29/10/2022 05:57	
<b>Description:</b>	Porirua Location 1: 200m E of Outfall Grab 1Month	Porirua Location 2: 200m SW of Outfall Grab 1Month	Porirua Location 3: Titahi Bay Beach Point 1 Grab 1Month	Porirua Location 4: Titahi Bay Beach Point 2 Grab 1Month	
<b>Microbiology</b>					
<b>Enterococci by Membrane Filtration</b>					
Enterococci	cfu/100 mL	10	52	260	290
<b>Faecal coliforms by Membrane Filtration</b>					
Faecal coliforms	cfu/100 mL	82	480	240	240

Sample Details	WATERS	WATERS	WATERS	
<b>Lab Sample ID:</b>	<b>221029-061-5</b>	<b>221029-061-6</b>	<b>221029-061-7</b>	
<b>Client Sample ID:</b>				
<b>Sample Date/Time</b>	29/10/2022 06:31	29/10/2022 07:03	29/10/2022 07:30	
<b>Description:</b>	Porirua Location 5: Te Horohiwa Rocks Grab 1Month	Porirua Location 6: Mount Cooper Coastal Grab 1Month	Porirua Sample Control Site Grab 1Mo nth	
<b>Microbiology</b>				
<b>Enterococci by Membrane Filtration</b>				
Enterococci	cfu/100 mL	10	2.0	<2.0
<b>Faecal coliforms by Membrane Filtration</b>				
Faecal coliforms	cfu/100 mL	22	<2.0	<2.0

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Reference Methods				
The sample(s) referred to in this report were analysed by the following method(s)				
Analyte	Method Reference	MDL	Samples	Location
<b>Microbiology</b>				
<b>Enterococci by Membrane Filtration</b>				
Enterococci	APHA (online edition) 9230 C	1 cfu/100 mL	All	Wellington
<b>Faecal coliforms by Membrane Filtration</b>				
Faecal coliforms	APHA (online edition) 9222 D	1 cfu/100 mL	All	Wellington
The method detection limit (MDL) listed is the limit attainable in a relatively clean matrix. If dilutions are required for analysis the detection limit may be higher. For more information please contact the Compliance and Projects Manager.				



### Certificate of Analysis

#### Laboratory Reference: 221101-143

<b>Attention:</b>	James Feary	<b>Final Report:</b>	482216-0
<b>Client:</b>	VEOLIA WATER	<b>Report Issue Date:</b>	03-Nov-2022
<b>Address:</b>	127 Stewart Duff Drive, Rongotai, Wellington, 6022	<b>Received Date:</b>	01-Nov-2022
<b>Client Reference:</b>	Porirua WWTP Discharge Shoreline	<b>Laboratory Activity Dates:</b>	01-Nov-2022 - 02-Nov-2022
<b>Purchase Order:</b>	7300214521	<b>Quote Reference :</b>	11592

Sample Details	WATERS	WATERS	WATERS	WATERS
<b>Lab Sample ID:</b>	221101-143-1	221101-143-2	221101-143-3	221101-143-4
<b>Client Sample ID:</b>				
<b>Sample Date/Time</b>	01/11/2022 06:17	01/11/2022 05:55	01/11/2022 06:10	01/11/2022 06:33
<b>Description:</b>	Porirua Location 1: 200m E of Outfall Grab 1Month	Porirua Location 2: 200m SW of Outfall Grab 1Month	Porirua Location 3: Titahi Bay Beach Point 1 Grab 1Month	Porirua Location 4: Titahi Bay Beach Point 2 Grab 1Month
<b>Microbiology</b>				
<b>Enterococci by Membrane Filtration</b>				
Enterococci	cfu/100 mL	<2.0	<2.0	<2.0
<b>Faecal coliforms by Membrane Filtration</b>				
Faecal coliforms	cfu/100 mL	22	<2.0	<2.0

Sample Details	WATERS	WATERS	WATERS
<b>Lab Sample ID:</b>	221101-143-5	221101-143-6	221101-143-7
<b>Client Sample ID:</b>			
<b>Sample Date/Time</b>	01/11/2022 05:30	01/11/2022 07:01	01/11/2022 07:28
<b>Description:</b>	Porirua Location 5: Te Horohiwa Rocks Grab 1Month	Porirua Location 6: Mount Cooper Coastal Grab 1Month	Porirua Sample Control Site Grab 1Mo nth
<b>Microbiology</b>			
<b>Enterococci by Membrane Filtration</b>			
Enterococci	cfu/100 mL	<2.0	<2.0
<b>Faecal coliforms by Membrane Filtration</b>			
Faecal coliforms	cfu/100 mL	4.0	24

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Reference Methods				
The sample(s) referred to in this report were analysed by the following method(s)				
Analyte	Method Reference	MDL	Samples	Location
<b>Microbiology</b>				
<b>Enterococci by Membrane Filtration</b>				
Enterococci	APHA (online edition) 9230 C	1 cfu/100 mL	All	Wellington
<b>Faecal coliforms by Membrane Filtration</b>				
Faecal coliforms	APHA (online edition) 9222 D	1 cfu/100 mL	All	Wellington
The method detection limit (MDL) listed is the limit attainable in a relatively clean matrix. If dilutions are required for analysis the detection limit may be higher. For more information please contact the Compliance and Projects Manager.				



### Certificate of Analysis

Laboratory Reference: 221107-010

<b>Attention:</b>	Julian Villada	<b>Final Report:</b>	<b>484038-0</b>
<b>Client:</b>	VEOLIA WATER	<b>Report Issue Date:</b>	17-Nov-2022
<b>Address:</b>	127 Stewart Duff Drive, Rongotai, Wellington, 6022	<b>Received Date:</b>	15-Nov-2022
		<b>Sampled By:</b>	Veolia
<b>Client Reference:</b>	Porirua Shoreline Monthly	<b>Laboratory Activity Dates:</b>	15-Nov-2022 - 16-Nov-2022
<b>Purchase Order:</b>	7300214521	<b>Quote Reference :</b>	11592

Sample Details	WATERS	WATERS	WATERS	WATERS	
<b>Lab Sample ID:</b>	221107-010-1	221107-010-2	221107-010-3	221107-010-4	
<b>Client Sample ID:</b>					
<b>Sample Date/Time</b>	15/11/2022 05:56	15/11/2022 05:37	15/11/2022 05:50	15/11/2022 06:20	
<b>Description:</b>	Porirua Location 1: 200m E of Outfall Grab 1Month	Porirua Location 2: 200m SW of Outfall Grab 1Month	Porirua Location 3: Titahi Bay Beach Point 1 Grab 1Month	Porirua Location 4: Titahi Bay Beach Point 2 Grab 1Month	
<b>Microbiology</b>					
<b>Enterococci by Membrane Filtration</b>					
Enterococci	cfu/100 mL	10	12	2.0	<2.0
<b>Faecal coliforms by Membrane Filtration</b>					
Faecal coliforms	cfu/100 mL	26	4.0	<2.0	8.0

Sample Details	WATERS	WATERS	WATERS	
<b>Lab Sample ID:</b>	221107-010-5	221107-010-6	221107-010-7	
<b>Client Sample ID:</b>				
<b>Sample Date/Time</b>	15/11/2022 05:20	15/11/2022 06:50	15/11/2022 07:25	
<b>Description:</b>	Porirua Location 5: Te Horohiwa Rocks Grab 1Month	Porirua Location 6: Mount Cooper Coastal Grab 1Month	Porirua Sample Control Site Grab 1Mo nth	
<b>Microbiology</b>				
<b>Enterococci by Membrane Filtration</b>				
Enterococci	cfu/100 mL	20	20	8.0
<b>Faecal coliforms by Membrane Filtration</b>				
Faecal coliforms	cfu/100 mL	32	8.0	10

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Reference Methods				
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Analyte	Method Reference	MDL	Samples	Location
<b>Microbiology</b>				
<b>Enterococci by Membrane Filtration</b>				
Enterococci	APHA (online edition) 9230 C	1 cfu/100 mL	All	Wellington
<b>Faecal coliforms by Membrane Filtration</b>				
Faecal coliforms	APHA (online edition) 9222 D	1 cfu/100 mL	All	Wellington
The method detection limit (MDL) listed is the limit attainable in a relatively clean matrix. If dilutions are required for analysis the detection limit may be higher. For more information please contact the Compliance and Projects Manager.				



### Certificate of Analysis

Laboratory Reference: 221118-110

<b>Attention:</b>	James Feary	<b>Final Report:</b>	484606-0
<b>Client:</b>	VEOLIA WATER	<b>Report Issue Date:</b>	21-Nov-2022
<b>Address:</b>	127 Stewart Duff Drive, Rongotai, Wellington, 6022	<b>Received Date:</b>	18-Nov-2022
<b>Client Reference:</b>	Porirua WWTP Discharge Shoreline	<b>Laboratory Activity Dates:</b>	18-Nov-2022 - 19-Nov-2022
<b>Purchase Order:</b>	7300208972	<b>Quote Reference :</b>	11592

Sample Details	WATERS	WATERS	WATERS	WATERS	
<b>Lab Sample ID:</b>	221118-110-1	221118-110-2	221118-110-3	221118-110-4	
<b>Client Sample ID:</b>					
<b>Sample Date/Time</b>	17/11/2022 20:26	17/11/2022 19:46	17/11/2022 20:30	17/11/2022 20:43	
<b>Description:</b>	Porirua Location 1: 200m E of Outfall Grab 1Month	Porirua Location 2: 200m SW of Outfall Grab 1Month	Porirua Location 3: Titahi Bay Beach Point 1 Grab 1Month	Porirua Location 4: Titahi Bay Beach Point 2 Grab 1Month	
<b>Microbiology</b>					
<b>Enterococci by Membrane Filtration</b>					
Enterococci	cfu/100 mL	<2.0	<2.0	2.0	<2.0
<b>Faecal coliforms by Membrane Filtration</b>					
Faecal coliforms	cfu/100 mL	2.0	2.0	2.0	<2.0

Sample Details	WATERS	WATERS	
<b>Lab Sample ID:</b>	221118-110-5	221118-110-6	
<b>Client Sample ID:</b>			
<b>Sample Date/Time</b>	17/11/2022 20:04	17/11/2022 19:22	
<b>Description:</b>	Porirua Location 5: Te Horohiwa Rocks Grab 1Month	Porirua Location 6: Mount Cooper Coastal Grab 1Month	
<b>Microbiology</b>			
<b>Enterococci by Membrane Filtration</b>			
Enterococci	cfu/100 mL	<2.0	<2.0
<b>Faecal coliforms by Membrane Filtration</b>			
Faecal coliforms	cfu/100 mL	<2.0	4.0

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Reference Methods				
The sample(s) referred to in this report were analysed by the following method(s)				
Analyte	Method Reference	MDL	Samples	Location
<b>Microbiology</b>				
<b>Enterococci by Membrane Filtration</b>				
Enterococci	APHA (online edition) 9230 C	1 cfu/100 mL	All	Wellington
<b>Faecal coliforms by Membrane Filtration</b>				
Faecal coliforms	APHA (online edition) 9222 D	1 cfu/100 mL	All	Wellington
The method detection limit (MDL) listed is the limit attainable in a relatively clean matrix. If dilutions are required for analysis the detection limit may be higher. For more information please contact the Compliance and Projects Manager.				



### Certificate of Analysis

Laboratory Reference: 221120-052

<b>Attention:</b>	James Feary	<b>Final Report:</b>	484768-0
<b>Client:</b>	VEOLIA WATER	<b>Report Issue Date:</b>	23-Nov-2022
<b>Address:</b>	127 Stewart Duff Drive, Rongotai, Wellington, 6022	<b>Received Date:</b>	20-Nov-2022
<b>Client Reference:</b>	Porirua WWTP Discharge Shoreline	<b>Laboratory Activity Dates:</b>	20-Nov-2022 - 22-Nov-2022
<b>Purchase Order:</b>	7300208972	<b>Quote Reference :</b>	11592

Sample Details	WATERS	WATERS	WATERS	WATERS	
<b>Lab Sample ID:</b>	221120-052-1	221120-052-2	221120-052-3	221120-052-4	
<b>Client Sample ID:</b>					
<b>Sample Date/Time</b>	19/11/2022 14:35	19/11/2022 16:04	19/11/2022 14:27	19/11/2022 14:50	
<b>Description:</b>	Porirua Location 1: 200m E of Outfall Grab 1Month	Porirua Location 2: 200m SW of Outfall Grab 1Month	Porirua Location 3: Titahi Bay Beach Point 1 Grab 1Month	Porirua Location 4: Titahi Bay Beach Point 2 Grab 1Month	
<b>Microbiology</b>					
<b>Enterococci by Membrane Filtration</b>					
Enterococci	cfu/100 mL	42	64	130	100
<b>Faecal coliforms by Membrane Filtration</b>					
Faecal coliforms	cfu/100 mL	54	38	64	98

Sample Details	WATERS	WATERS	WATERS	
<b>Lab Sample ID:</b>	221120-052-5	221120-052-6	221120-052-7	
<b>Client Sample ID:</b>				
<b>Sample Date/Time</b>	19/11/2022 16:30	19/11/2022 15:20	19/11/2022 15:46	
<b>Description:</b>	Porirua Location 5: Te Horohiwa Rocks Grab 1Month	Porirua Location 6: Mount Cooper Coastal Grab 1Month	Porirua Sample Control Site Grab 1Mo nth	
<b>Microbiology</b>				
<b>Enterococci by Membrane Filtration</b>				
Enterococci	cfu/100 mL	34	34	42
<b>Faecal coliforms by Membrane Filtration</b>				
Faecal coliforms	cfu/100 mL	50	6.0	56

Results marked with \* are not accredited to International Accreditation New Zealand. A dash indicates no test performed.

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Reference Methods				
The sample(s) referred to in this report were analysed by the following method(s)				
Analyte	Method Reference	MDL	Samples	Location
<b>Microbiology</b>				
<b>Enterococci by Membrane Filtration</b>				
Enterococci	APHA (online edition) 9230 C	1 cfu/100 mL	All	Wellington
<b>Faecal coliforms by Membrane Filtration</b>				
Faecal coliforms	APHA (online edition) 9222 D	1 cfu/100 mL	All	Wellington
The method detection limit (MDL) listed is the limit attainable in a relatively clean matrix. If dilutions are required for analysis the detection limit may be higher. For more information please contact the Compliance and Projects Manager.				



### Certificate of Analysis

Laboratory Reference: 221122-121

<b>Attention:</b>	James Feary	<b>Final Report:</b>	485005-0
<b>Client:</b>	VEOLIA WATER	<b>Report Issue Date:</b>	24-Nov-2022
<b>Address:</b>	127 Stewart Duff Drive, Rongotai, Wellington, 6022	<b>Received Date:</b>	22-Nov-2022
<b>Client Reference:</b>	Porirua WWTP Discharge Shoreline	<b>Laboratory Activity Dates:</b>	22-Nov-2022 - 23-Nov-2022
<b>Purchase Order:</b>	7300208972	<b>Quote Reference :</b>	11592

Sample Details	WATERS	WATERS	WATERS	WATERS	
<b>Lab Sample ID:</b>	221122-121-1	221122-121-2	221122-121-3	221122-121-4	
<b>Client Sample ID:</b>					
<b>Sample Date/Time</b>	22/11/2022 06:13	22/11/2022 05:25	22/11/2022 06:07	22/11/2022 06:24	
<b>Description:</b>	Porirua Location 1: 200m E of Outfall Grab 1Month	Porirua Location 2: 200m SW of Outfall Grab 1Month	Porirua Location 3: Titahi Bay Beach Point 1 Grab 1Month	Porirua Location 4: Titahi Bay Beach Point 2 Grab 1Month	
<b>Microbiology</b>					
<b>Enterococci by Membrane Filtration</b>					
Enterococci	cfu/100 mL	44	4.0	<2.0	34
<b>Faecal coliforms by Membrane Filtration</b>					
Faecal coliforms	cfu/100 mL	22	8.0	4.0	32

Sample Details	WATERS	WATERS	WATERS	
<b>Lab Sample ID:</b>	221122-121-5	221122-121-6	221122-121-7	
<b>Client Sample ID:</b>				
<b>Sample Date/Time</b>	22/11/2022 05:47	22/11/2022 06:47	22/11/2022 07:20	
<b>Description:</b>	Porirua Location 5: Te Horohiwa Rocks Grab 1Month	Porirua Location 6: Mount Cooper Coastal Grab 1Month	Porirua Sample Control Site Grab 1Mo nth	
<b>Microbiology</b>				
<b>Enterococci by Membrane Filtration</b>				
Enterococci	cfu/100 mL	8.0	18	12
<b>Faecal coliforms by Membrane Filtration</b>				
Faecal coliforms	cfu/100 mL	28	20	26

Results marked with \* are not accredited to International Accreditation New Zealand. A dash indicates no test performed.

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Reference Methods				
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Analyte	Method Reference	MDL	Samples	Location
<b>Microbiology</b>				
<b>Enterococci by Membrane Filtration</b>				
Enterococci	APHA (online edition) 9230 C	1 cfu/100 mL	All	Wellington
<b>Faecal coliforms by Membrane Filtration</b>				
Faecal coliforms	APHA (online edition) 9222 D	1 cfu/100 mL	All	Wellington
The method detection limit (MDL) listed is the limit attainable in a relatively clean matrix. If dilutions are required for analysis the detection limit may be higher. For more information please contact the Compliance and Projects Manager.				



**Food & Water Testing**  
**ANALYTICAL REPORT**

<b>REPORT CODE</b>	<b>AR-22-NW-046484-01</b>	<b>REPORT DATE</b>	<b>20/12/2022</b>
<b>Attention</b>	Veolia Water - Wellington Julian Villada Wastewater Treatment Plant P.O. Box 14744 WELLINGTON 6041 Wellington NEW ZEALAND		
<b>Phone</b>	(04) 388 0067	<b>Copy to:</b> Shibu (ann.shibu@veolia.com), Robins (nico.robins@veolia.com), Vachova (petra.vachova@veolia.com), Lawlor (rik.lawlor@veolia.com),	
<b>Email</b>	julian.villada@veolia.com		
<b>Contact for your orders:</b>	Gurisha Arora	<b>Order code:</b>	EUNZWE-00087322
<b>Contract:</b>	Porirua	<b>Purchase Order Number:</b>	7300221643
<b>Submission Reference:</b>	Porirua-Shorelines		
<b>SAMPLE CODE</b>	<b>812-2022-00140035</b>		
<b>Client Reference:</b>	Shore 1		
<b>Sample described as:</b>	Shoreline Location 1: 200m generally eastwards of the outfall		
<b>Reception Date &amp; Time:</b>	16/12/2022 12:08		
<b>Analysis Start Date &amp; Time:</b>	16/12/2022 13:49	<b>Analysis Ending Date:</b>	18/12/2022
<b>Sampled Date &amp; Time</b>	16/12/2022 06:30	<b>Sampler(s)</b>	Customer
<b>RESULTS</b>		<b>LOQ</b>	
<b>ZM0U1 Enumeration of Enterococci By Membrane Filtration</b>			
Enterococcus Species	<10	cfu/100 ml	10
<b>UMY2E Enumeration of Faecal Coliforms by Membrane Filtration</b>			
Faecal Coliforms	<10	cfu/100 ml	10
<b>SAMPLE CODE</b>	<b>812-2022-00140036</b>		
<b>Client Reference:</b>	Shore 2		
<b>Sample described as:</b>	Shoreline Location 2: 200m generally southwestwards of the outfall		
<b>Reception Date &amp; Time:</b>	16/12/2022 12:08		
<b>Analysis Start Date &amp; Time:</b>	16/12/2022 13:49	<b>Analysis Ending Date:</b>	18/12/2022
<b>Sampled Date &amp; Time</b>	16/12/2022 06:10	<b>Sampler(s)</b>	Customer
<b>RESULTS</b>		<b>LOQ</b>	
<b>ZM0U1 Enumeration of Enterococci By Membrane Filtration</b>			
Enterococcus Species	<10	cfu/100 ml	10
<b>UMY2E Enumeration of Faecal Coliforms by Membrane Filtration</b>			
Faecal Coliforms	10	cfu/100 ml	10
<b>SAMPLE CODE</b>	<b>812-2022-00140037</b>		
<b>Client Reference:</b>	Beach 1		
<b>Sample described as:</b>	Shoreline Location 3: Titahi Bay Beach Point 1		
<b>Reception Date &amp; Time:</b>	16/12/2022 12:08		
<b>Analysis Start Date &amp; Time:</b>	16/12/2022 13:49	<b>Analysis Ending Date:</b>	18/12/2022
<b>Sampled Date &amp; Time</b>	16/12/2022 06:39	<b>Sampler(s)</b>	Customer
<b>RESULTS</b>		<b>LOQ</b>	
<b>ZM0U1 Enumeration of Enterococci By Membrane Filtration</b>			
Enterococcus Species	36	cfu/100 ml	10

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RESULTS	LOQ
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**UMY2E Enumeration of Faecal Coliforms by Membrane Filtration**

Faecal Coliforms	90	cfu/100 ml	10
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**SAMPLE CODE 812-2022-00140038**

<b>Client Reference:</b>	Beach 2		
<b>Sample described as:</b>	Shoreline Location 4: Titahi Bay Beach Point 2		
<b>Reception Date &amp; Time:</b>	16/12/2022	12:08	
<b>Analysis Start Date &amp; Time:</b>	16/12/2022	13:49	<b>Analysis Ending Date:</b> 18/12/2022
<b>Sampled Date &amp; Time</b>	16/12/2022	06:50	<b>Sampler(s)</b> Customer

RESULTS	LOQ
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**ZM0U1 Enumeration of Enterococci By Membrane Filtration**

Enterococcus Species	55	cfu/100 ml	10
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**UMY2E Enumeration of Faecal Coliforms by Membrane Filtration**

Faecal Coliforms	30	cfu/100 ml	10
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**SAMPLE CODE 812-2022-00140039**

<b>Client Reference:</b>	Rocks		
<b>Sample described as:</b>	Shoreline Location 5: Te Horohiwa Rocks		
<b>Reception Date &amp; Time:</b>	16/12/2022	12:08	
<b>Analysis Start Date &amp; Time:</b>	16/12/2022	13:48	<b>Analysis Ending Date:</b> 20/12/2022
<b>Sampled Date &amp; Time</b>	16/12/2022	05:50	<b>Sampler(s)</b> Customer

RESULTS	LOQ
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**ZM0U1 Enumeration of Enterococci By Membrane Filtration**

Enterococcus Species	<10	cfu/100 ml	10
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**UMY2E Enumeration of Faecal Coliforms by Membrane Filtration**

Faecal Coliforms	10	cfu/100 ml	10
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**SAMPLE CODE 812-2022-00140040**

<b>Client Reference:</b>	Cooper		
<b>Sample described as:</b>	Shoreline Location 6: Mount Cooper		
<b>Reception Date &amp; Time:</b>	16/12/2022	12:08	
<b>Analysis Start Date &amp; Time:</b>	16/12/2022	13:49	<b>Analysis Ending Date:</b> 20/12/2022
<b>Sampled Date &amp; Time</b>	16/12/2022	07:16	<b>Sampler(s)</b> Customer

RESULTS	LOQ
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**ZM0U1 Enumeration of Enterococci By Membrane Filtration**

Enterococcus Species	<10	cfu/100 ml	10
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**UMY2E Enumeration of Faecal Coliforms by Membrane Filtration**

Faecal Coliforms	<10	cfu/100 ml	10
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**SAMPLE CODE 812-2022-00140041**

<b>Client Reference:</b>	Control		
<b>Sample described as:</b>	Sample Control Site: Environmental Sampling - Reference		
<b>Reception Date &amp; Time:</b>	16/12/2022	12:08	
<b>Analysis Start Date &amp; Time:</b>	16/12/2022	13:49	<b>Analysis Ending Date:</b> 18/12/2022
<b>Sampled Date &amp; Time</b>	16/12/2022	07:40	<b>Sampler(s)</b> Customer

RESULTS	LOQ
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**ZM0U1 Enumeration of Enterococci By Membrane Filtration**

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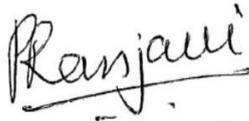
**Food & Water Testing**

RESULTS		LOQ	
<b>ZM0U1 Enumeration of Enterococci By Membrane Filtration</b>			
Enterococcus Species	<10	cfu/100 ml	10
<b>UMY2E Enumeration of Faecal Coliforms by Membrane Filtration</b>			
Faecal Coliforms	<10	cfu/100 ml	10

LIST OF METHODS			
UMY2E	Faecal Coliforms E (Water) [NZ] <10 >6 000 /100 ml (0) m-FC Agar-F: SMEWW 9222D; APHA Online	ZM0U1	Enterococcus Species E (Water) [NZ] <10 >6 000 /100 ml (0) mEI Agar-F: US-EPA 1600:2009

**Signature**

**Sunita Raju** Business Unit Manager


**Pathma Ranjanie** Senior laboratory Analyst


**Leo Cleave** Senior Analyst

**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

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.

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**END OF REPORT**

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**APPENDIX II: Heavy Metals and  
Specified Compounds**

### Certificate of Analysis

Laboratory Reference: 221003-088

<b>Attention:</b>	Julian Villada	<b>Final Report:</b>	482875-0
<b>Client:</b>	VEOLIA WATER	<b>Report Issue Date:</b>	08-Nov-2022
<b>Address:</b>	127 Stewart Duff Drive, Rongotai, Wellington, 6022	<b>Received Date:</b>	27-Oct-2022
<b>Client Reference:</b>	Porirua Monthly	<b>Sampled By:</b>	Veolia
<b>Purchase Order:</b>	7300208972	<b>Laboratory Activity Dates:</b>	29-Oct-2022 - 05-Nov-2022
		<b>Quote Reference :</b>	11592

Sample Details	WATERS	WATERS	WATERS
<b>Lab Sample ID:</b>	221003-088-1	221003-088-2	221003-088-3
<b>Client Sample ID:</b>			
<b>Sample Date/Time</b>	27/10/2022 09:24	27/10/2022 09:28	27/10/2022 09:19
<b>Description:</b>	Porirua Influent Grab 1Month	Porirua Effluent Grab 1Month	Porirua Effluent Composite 1Quarterly
<b>General Testing</b>			
Ammoniacal Nitrogen (as N)	mg/L 33.5	3.3	-
COD (as O2)	mg/L 820	92	-
Total Cyanide	mg/L -	-	<0.005
Total Nitrogen (as N)	mg/L 40	7.1	-
Total Phosphorus (as P)	mg/L 7.04	5.98	-
<b>Metals</b>			
<b>Total Metals by ICP-MS—Trace (Default Digest)</b>			
Arsenic (Total)	mg/L -	-	0.002
Cadmium (Total)	mg/L -	-	<0.00005
Chromium (Total)	mg/L -	-	0.0025
Copper (Total)	mg/L -	-	0.0076
Lead (Total)	mg/L -	-	0.00024
Mercury (Total)	mg/L -	-	<0.00005
Nickel (Total)	mg/L -	-	0.0011
Zinc (Total)	mg/L -	-	0.02
<b>Organics</b>			
<b>Phenols (Recoverable) by Gas Chromatography-Mass Spectrometry (Trace level)</b>			
2,3,4,6-tetrachlorophenol	mg/L -	-	<0.01
2,4,5-trichlorophenol	mg/L -	-	<0.01
2,4,6-trichlorophenol	mg/L -	-	<0.04
2,4-dichlorophenol	mg/L -	-	<0.01
2,4-dimethylphenol	mg/L -	-	<0.01
2,6-dichlorophenol	mg/L -	-	<0.01
2-chlorophenol	mg/L -	-	<0.01
2-methyl 4,6-dinitrophenol	mg/L -	-	<0.01
2-methylphenol	mg/L -	-	<0.01
2-nitrophenol	mg/L -	-	<0.02
4-Chloro-3-methylphenol	mg/L -	-	<0.01
4-methylphenol	mg/L -	-	<0.01
Pentachlorophenol	mg/L -	-	<0.01
Phenol	mg/L -	-	<0.02
<b>VOC by Gas Chromatography-Mass Spectrometry (Trace level)</b>			
1-1-1-2-tetrachloroethane	mg/L -	-	<0.0001
1-1-1-trichloroethane	mg/L -	-	<0.0001
1-1-2-2-tetrachloroethane	mg/L -	-	<0.0001
1-1-2-trichloroethane	mg/L -	-	<0.0001
1-1-dichloroethane	mg/L -	-	<0.0001
1-1-dichloroethene	mg/L -	-	<0.0005



Sample Details (continued)	WATERS	WATERS	WATERS
Lab Sample ID:	221003-088-1	221003-088-2	221003-088-3
Client Sample ID:			
Sample Date/Time:	27/10/2022 09:24	27/10/2022 09:28	27/10/2022 09:19
Description:	Porirua Influent Grab 1Month	Porirua Effluent Grab 1Month	Porirua Effluent Composite 1Quarterly
<b>Organics</b>			
<b>VOC by Gas Chromatography-Mass Spectrometry (Trace level)</b>			
1-1-dichloropropene	mg/L	-	<0.0001
1-2-3-trichlorobenzene	mg/L	-	<0.0001
1-2-3-trichloropropane	mg/L	-	<0.0001
1-2-4-trichlorobenzene	mg/L	-	<0.0001
1-2-4-trimethylbenzene	mg/L	-	<0.0001
1-2-dibromo-3-chloropropane	mg/L	-	<0.0001
1-2-dibromoethane	mg/L	-	<0.0001
1-2-dichlorobenzene	mg/L	-	<0.0001
1-2-dichloroethane	mg/L	-	<0.0001
1-2-dichloroethene (cis and trans)	mg/L	-	<0.00020
1-2-dichloropropane	mg/L	-	<0.0001
1-3-5-trimethylbenzene	mg/L	-	<0.0001
1-3-dichlorobenzene	mg/L	-	<0.0001
1-3-dichloropropane	mg/L	-	<0.0001
1-3-dichloropropene (cis and trans)	mg/L	-	<0.00020
1-4-dichlorobenzene	mg/L	-	<0.0001
2-2-dichloropropane	mg/L	-	<0.0005
2-chlorotoluene	mg/L	-	<0.0001
4-chlorotoluene	mg/L	-	<0.0001
benzene	mg/L	-	<0.0001
bromobenzene	mg/L	-	<0.0001
Bromodichloromethane to MAV Ratio		-	0.00
bromodichloromethane	mg/L	-	<0.0001
Bromoform to MAV Ratio		-	0.00
bromoform	mg/L	-	<0.0001
bromomethane	mg/L	-	<0.0005
carbon tetrachloride	mg/L	-	<0.0001
chlorobenzene	mg/L	-	<0.0001
Chloroform to MAV Ratio		-	0.00
chloroform	mg/L	-	<0.0001
chloromethane	mg/L	-	<0.0005
cis-1-2-dichloroethylene	mg/L	-	<0.0001
cis-1-3-dichloropropene	mg/L	-	<0.0001
Dibromochloromethane to MAV Ratio		-	0.00
dibromochloromethane	mg/L	-	<0.0001
dibromomethane	mg/L	-	<0.0001
dichlorodifluoromethane	mg/L	-	<0.0005
ethylbenzene	mg/L	-	<0.0001
ethylchloride	mg/L	-	<0.0001
fluorotrichloromethane	mg/L	-	<0.0001
hexachlorobutadiene	mg/L	-	<0.0001
iso-propylbenzene	mg/L	-	<0.0001
m- & p-xylene	mg/L	-	<0.0001
methylene chloride	mg/L	-	<0.0005
naphthalene	mg/L	-	<0.0001
n-butylbenzene	mg/L	-	<0.0001
n-propylbenzene	mg/L	-	<0.0001
o-xylene	mg/L	-	<0.0001
p-isopropyl toluene	mg/L	-	<0.0001
sec-butylbenzene	mg/L	-	<0.0001
styrene	mg/L	-	<0.0001
tert-butyl benzene	mg/L	-	<0.0001
tetrachloroethylene	mg/L	-	<0.0001
THM Ratio		-	0.00

Sample Details (continued)	WATERS	WATERS	WATERS
Lab Sample ID:	221003-088-1	221003-088-2	221003-088-3
Client Sample ID:			
Sample Date/Time:	27/10/2022 09:24	27/10/2022 09:28	27/10/2022 09:19
Description:	Porirua Influent Grab 1Month	Porirua Effluent Grab 1Month	Porirua Effluent Composite 1Quarterly
<b>Organics</b>			
<b>VOC by Gas Chromatography-Mass Spectrometry (Trace level)</b>			
toluene	mg/L	-	<0.0001
trans-1-2-dichloroethene	mg/L	-	<0.0001
trans-1-3-dichloropropene	mg/L	-	<0.0001
trichloroethylene	mg/L	-	<0.0001
vinyl chloride	mg/L	-	<0.0001
Xylenes (total)	mg/L	-	<0.00020

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<b>Reference Methods</b>					
The sample(s) referred to in this report were analysed by the following method(s)					
Analyte	Method Reference	MDL	Samples	Location	
<b>General Testing</b>					
Ammoniacal Nitrogen (as N) by Colorimetry/Discrete Analyser	HMSO (1981) ISBN 0117516139	0.4 mg/L	1, 2	Auckland	
Chemical Oxygen Demand (as O2) by Dichromate/Sulphuric Acid Digestion and Spectrophotometry, Screen level	APHA (online edition) 5220 D	30 mg/L	1, 2	Auckland	
Total Cyanide by Distillation and Colorimetry/Discrete Analyser	APHA (online edition) 4500-CN C & E (modified)	0.005 mg/L	3	Auckland	
Total Nitrogen (as N) by Persulphate Digestion and Flow Analysis	APHA (online edition) 4500-P J (modified), 4500-NO3 I	0.010 mg/L	1, 2	Auckland	
Total Phosphorus (as P) by Persulphate Digestion and Colorimetry/Discrete Analyser	APHA (online edition) 4500-P J (modified) (Discrete Analyser)	0.004 mg/L	1, 2	Auckland	
<b>Metals</b>					
<b>Total Metals by ICP-MS—Trace (Default Digest)</b>					
Arsenic (Total)	APHA (online edition) 3125 B by ICPMS	0.00010 mg/L	3	Auckland	
Cadmium (Total)	APHA (online edition) 3125 B by ICPMS	0.00005 mg/L	3	Auckland	
Chromium (Total)	APHA (online edition) 3125 B by ICPMS	0.0005 mg/L	3	Auckland	
Copper (Total)	APHA (online edition) 3125 B by ICPMS	0.0002 mg/L	3	Auckland	
Lead (Total)	APHA (online edition) 3125 B by ICPMS	0.00010 mg/L	3	Auckland	
Mercury (Total)	APHA (online edition) 3125 B by ICPMS	0.00005 mg/L	3	Auckland	
Nickel (Total)	APHA (online edition) 3125 B by ICPMS	0.00010 mg/L	3	Auckland	
Zinc (Total)	APHA (online edition) 3125 B by ICPMS	0.001 mg/L	3	Auckland	
<b>Organics</b>					
<b>Phenols (Recoverable) by Gas Chromatography-Mass Spectrometry(Trace level)</b>					
2,3,4,6-tetrachlorophenol	Micro SPE, GC-MSD	0.001 mg/L	3	Auckland	
2,4,5-trichlorophenol	Micro SPE, GC-MSD	0.001 mg/L	3	Auckland	
2,4,6-trichlorophenol	Micro SPE, GC-MSD	0.004 mg/L	3	Auckland	
2,4-dichlorophenol	Micro SPE, GC-MSD	0.001 mg/L	3	Auckland	
2,4-dimethylphenol	Micro SPE, GC-MSD	0.001 mg/L	3	Auckland	
2,6-dichlorophenol	Micro SPE, GC-MSD	0.001 mg/L	3	Auckland	
2-chlorophenol	Micro SPE, GC-MSD	0.001 mg/L	3	Auckland	
2-methyl 4,6-dinitrophenol	Micro SPE, GC-MSD	0.001 mg/L	3	Auckland	
2-methylphenol	Micro SPE, GC-MSD	0.001 mg/L	3	Auckland	
2-nitrophenol	Micro SPE, GC-MSD	0.002 mg/L	3	Auckland	
4-Chloro-3-methylphenol	Micro SPE, GC-MSD	0.001 mg/L	3	Auckland	
4-methylphenol	Micro SPE, GC-MSD	0.001 mg/L	3	Auckland	
Pentachlorophenol	Micro SPE, GC-MSD	0.001 mg/L	3	Auckland	
Phenol	Micro SPE, GC-MSD	0.002 mg/L	3	Auckland	
<b>VOC by Gas Chromatography-Mass Spectrometry (Trace level)</b>					
1-1-1-2-tetrachloroethane	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland	

Organics				
VOC by Gas Chromatography-Mass Spectrometry (Trace level)				
1-1-1-trichloroethane	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
1-1-2-2-tetrachloroethane	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
1-1-2-trichloroethane	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
1-1-dichloroethane	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
1-1-dichloroethene	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.0005 mg/L	3	Auckland
1-1-dichloropropene	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
1-2-3-trichlorobenzene	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
1-2-3-trichloropropane	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
1-2-4-trichlorobenzene	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
1-2-4-trimethylbenzene	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
1-2-dibromo-3-chloropropane	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
1-2-dibromoethane	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
1-2-dichlorobenzene	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
1-2-dichloroethane	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
1-2-dichloroethene (cis and trans)	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.0002 mg/L	3	Auckland
1-2-dichloropropane	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
1-3-5-trimethylbenzene	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
1-3-dichlorobenzene	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
1-3-dichloropropane	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
1-3-dichloropropene (cis and trans)	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.0002 mg/L	3	Auckland
1-4-dichlorobenzene	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
2-2-dichloropropane	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.0005 mg/L	3	Auckland
2-chlorotoluene	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
4-chlorotoluene	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
benzene	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
bromobenzene	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
Bromodichloromethane to MAV Ratio	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.1	3	Auckland
bromodichloromethane	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
Bromoform to MAV Ratio	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.1	3	Auckland
bromoform	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
bromomethane	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.0005 mg/L	3	Auckland
carbon tetrachloride	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
chlorobenzene	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
Chloroform to MAV Ratio	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.1	3	Auckland
chloroform	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
chloromethane	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.0005 mg/L	3	Auckland

Organics				
VOC by Gas Chromatography-Mass Spectrometry (Trace level)				
cis-1-2-dichloroethylene	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
cis-1-3-dichloropropene	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
Dibromochloromethane to MAV Ratio	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.1	3	Auckland
dibromochloromethane	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
dibromomethane	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
dichlorodifluoromethane	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.0005 mg/L	3	Auckland
ethylbenzene	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
ethylchloride	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
fluorotrichloromethane	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
hexachlorobutadiene	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
iso-propylbenzene	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
m- & p-xylene	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
methylene chloride	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.0005 mg/L	3	Auckland
naphthalene	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
n-butylbenzene	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
n-propylbenzene	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
o-xylene	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
p-isopropyl toluene	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
sec-butylbenzene	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
styrene	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
tert-butyl benzene	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
tetrachloroethylene	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
THM Ratio	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.1	3	Auckland
toluene	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
trans-1-2-dichloroethene	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
trans-1-3-dichloropropene	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
trichloroethylene	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
vinyl chloride	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.00010 mg/L	3	Auckland
Xylenes (total)	APHA (online edition) 6200 B (Purge and Trap ) Modified	0.0002 mg/L	3	Auckland
Preparations				
Digest for Total Metals in Liquids	APHA 3030E Modified ( 4:1 Nitric:Hydrochloric Acid: 95°C 2 hours)		3	Auckland
<i>The method detection limit (MDL) listed is the limit attainable in a relatively clean matrix. If dilutions are required for analysis the detection limit may be higher. For more information please contact the Compliance and Projects Manager.</i>				

Samples, with suitable preservation and stability of analytes, will be held by the laboratory for a period of two weeks after results have been reported, unless otherwise advised by the submitter.

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