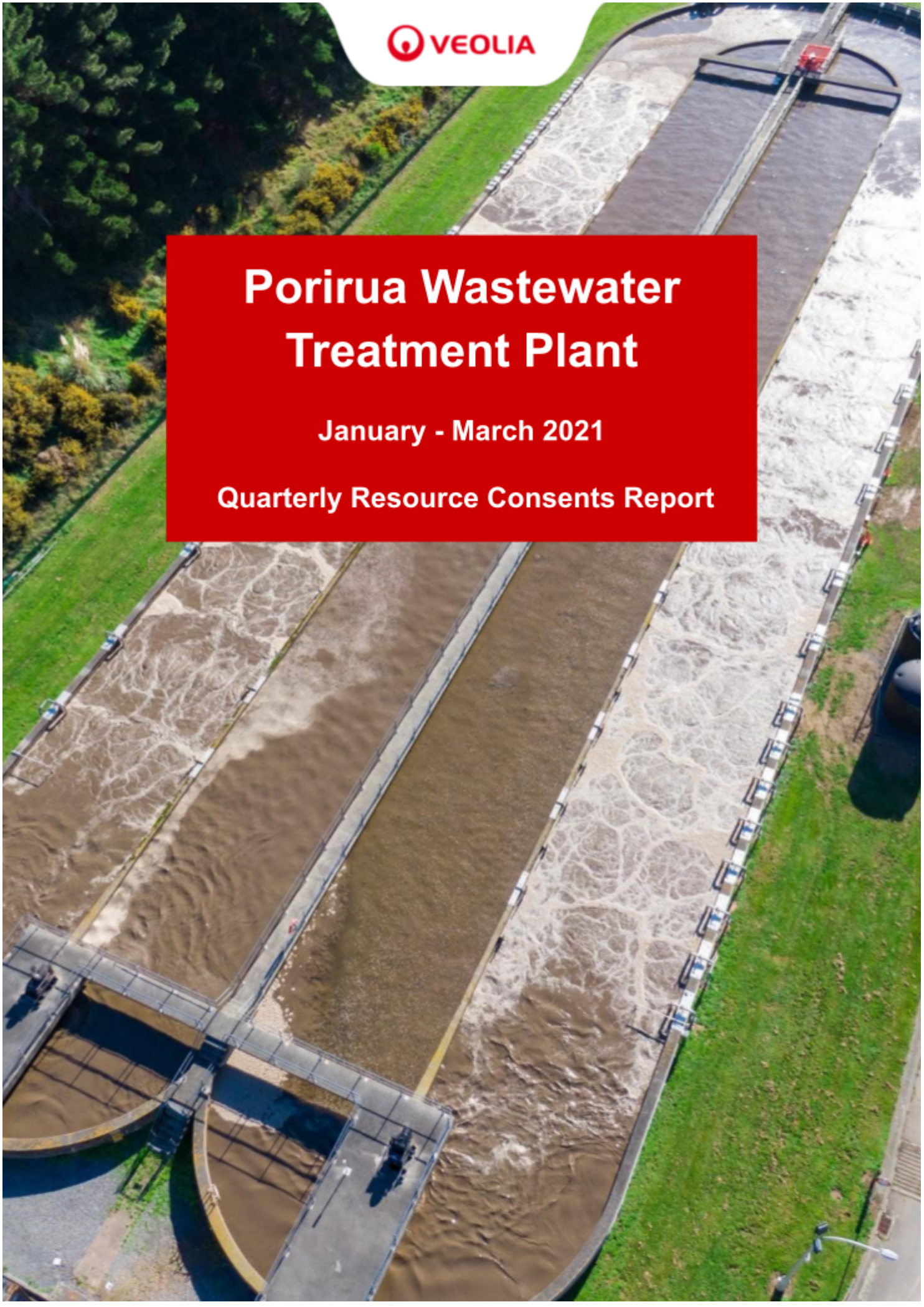

Porirua Wastewater Treatment Plant

January - March 2021

Quarterly Resource Consents Report

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CONTROL SHEET

Document Title: Porirua Wastewater Treatment Plant January - March 2021 Quarterly Resource Consents Report

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DOCUMENT CONTROL REGISTER

Version	Status	Date	Details of Revision
0	Draft	20/04/2021	Original version for review.
1	Final	30/4/2021	Internal review completed.

EXECUTIVE SUMMARY

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 January to March 2021 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 or about map reference NZMS 260: R27;632.096.

The report will cover the quarterly period from January to March 2021 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	N/A
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 proportional 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^3 and no more than 10% of 90 consecutive daily values shall exceed 75g/m^3.
   ii. Suspended Solids : Geometric mean of 90 consecutive daily suspended solids values shall not exceed 30g/m^3 and no more than 10% of 90 consecutive daily values shall exceed 75g/m^3.

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

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 is required regarding Condition (11) (a). It makes reference to both the 90th percentile and 10% of 90 consecutive days for BOD5 and SS. The two calculation methodologies are very different. During a meeting held on 10th December 2019 and through subsequent emails with the GWRC resource consent officer on 19th February 2020, the methodology was discussed. The methodology adopted in this report will be the 10% of the 90 consecutive days.

Date	Biochemical Oxygen Demand		Suspended Solids	
	90 Day Geometric Mean	90 Day Percent Compliance	90 Day Geometric Mean	90 Day Percent Compliance
	g/m^3	%	g/m^3	%
31/01/2021	4	100	4	100
28/02/2021	3	100	3	100
31/03/2021	3	100	3	100
Limits	**30**	**90**	**30**	**90**

Table 3:Consecutive 90 Day Geometric Mean and Percent Compliance

For all daily effluent geometric mean and percent compliance of Biochemical Oxygen Demand and Suspended Solids results please see Appendix i: Daily Effluent Biochemical Oxygen Demand and Suspended Solids Results. All analytical results data sheets from Eurofins-ELS can be available upon request.

Section (b)

Below is a summary of the geometric mean and percent compliance for faecal coliforms 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.

Date	Faecal Coliforms	
	20 Sample Geometric Mean	20 Sample Percent Compliance
	cfu/100mL	%
31/01/2021	176	95
28/02/2021	57	100
31/03/2021	64	100
Limits	**1000**	**90**

Table 4: 20 Day Geometric Mean and Percent Compliance

For all faecal coliform results please see Appendix i: Effluent Faecal Coliform Results. All analytical results data sheets from Watercare can be available upon request.

Section (c)

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

Compound	Units	Limit	13/01/2021
Arsenic	**g/m^3**	**0.5**	0.0016
Cadmium as the element	**g/m^3**	**0.05**	0.0023
Chromium	**g/m^3**	**0.2**	0.00039
Copper as the element	**g/m^3**	**0.8**	0.0036
Nickel as the element	**g/m^3**	**0.05**	0.001
Lead as the element	**g/m^3**	**0.5**	0.00005
Zinc as the element	**g/m^3**	**2.0**	0.045
Mercury as the element	**g/m^3**	**0.002**	0.0005
Phenol	**g/m^3**	**0.2**	0.002
Cyanide as CN	**g/m^3**	**0.1**	0.005
Chlorinated hydrocarbons	**g/m^3**	**0.01**	See Appendix ii

Table 5: 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:

a. The production of any conspicuous oil or grease films, scums or foams, or floatable or suspended material;
b. Any conspicuous change in the colour or visual clarity of water;
c. 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

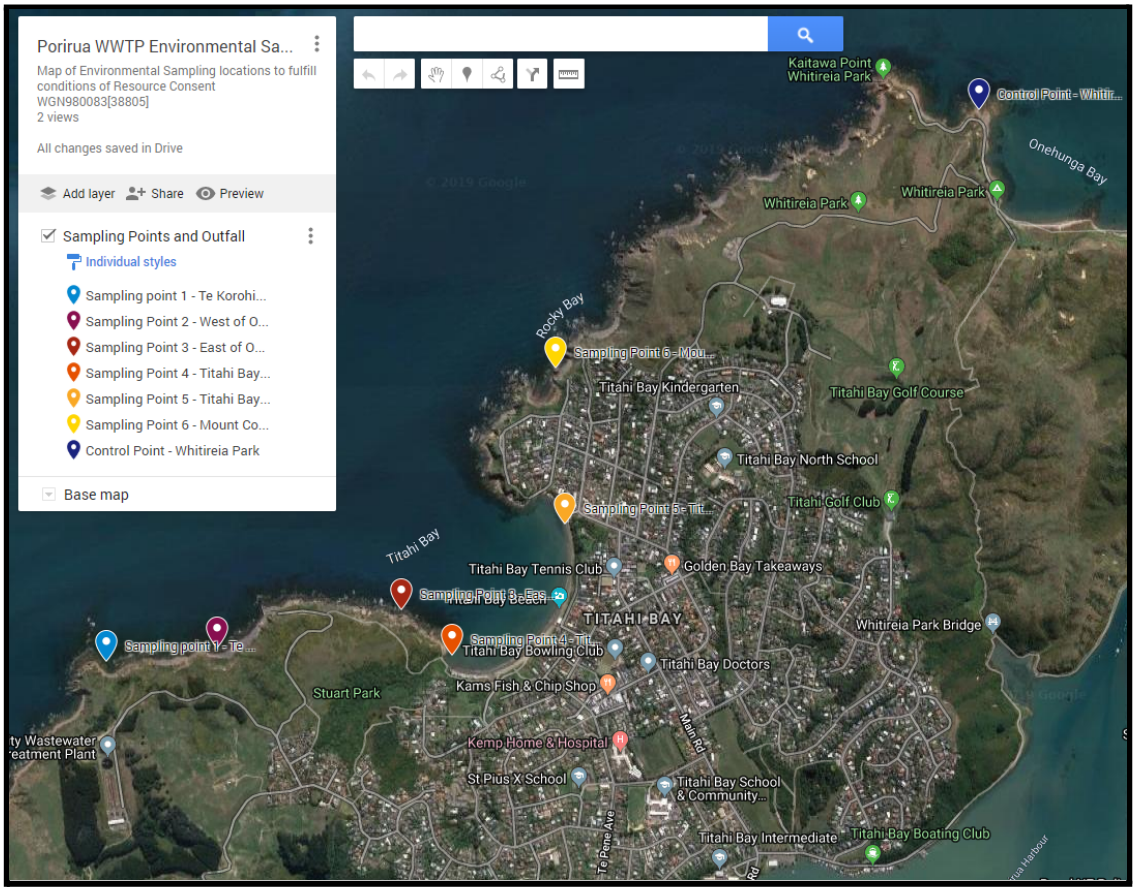

Figure 1: Shoreline Monitoring Sampling Sites

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. Please note that shoreline monitoring is not initiated for bypass discharge events where the volume is less than 1,000m^3, as agreed with GWRC.

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). The results from each set of samples collected can be found in Appendix i: Shoreline Monitoring Data. Analytical results from each set of samples collected can be made available upon request.

Month	Bypass/Overflow Events	
	Consented	Non-Consented
January 2021	0	1
February 2021	0	0
March 2021	1	1

Table 6: Monthly Bypass and Overflow Events

There were 2 unconsented discharges during the January to March 2021 reporting period. Both these discharges involved un-disinfected effluent being discharged to the coastal marine area. On 20th January 2021, a power fluctuation from the incoming power caused the UV system to shut down. On 22nd March 2021, a plant malfunction occurred at the Porirua WWTP that required the UV system to be shut down in order to conduct repairs. After completing the repairs, a further fault on the UV system resulted in it being offline for 17.5 hours. During this period, the plant discharged effluent that was not disinfected. Incident investigation reports were submitted to GWRC for both discharges.

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 January to March 2021 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 Daily Treated Flow	Total Volume of Bypass	Dilution Ratio	Consented	Cause	Monitoring Results
dd mmm yyyy	dd mmm yyyy	hrs/mins	m^3	m^3	m^3	--	Y/N		
20/01/2021	22/01/2021	10:47:00	0	20770	6738	0:1	N	Power surge causing the UV system to shutdown. Non-disinfected water discharged to CMA.	Notifications submitted.
22/03/2021	23/03/2021	17:37:00	0	18731	13805	0:1	N	A plant malfunction occurred at the Porirua WWTP that required the UV system to be shut down in order to conduct repairs. After completing the repairs, a further fault on the UV system resulted in it being offline for 17.5 hours. During this period, the plant discharged effluent that was not disinfected. The UV system was restarted on 23rd March 2021 at 8:39AM.	Notifications submitted and samples undertaken.
31/03/2021	31/03/2021	4:27:00	14697	51373	22	678:1	Y	Heavy rainfall.	Notifications submitted.

Table 7: Discharge Events

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 January to March 2021 reporting period.

APPENDIX I

Daily Effluent Results: Biochemical Oxygen Demand

Day	January 2021			February 2021			March 2021		
	Results	Geometric Mean	Percent Compliance	Results	Geometric Mean	Percent Compliance	Results	Geometric Mean	Percent Compliance
	g/m^3	g/m^3	%	g/m^3	g/m^3	%	g/m^3	g/m^3	%
1	14	4	100	2	4	100	2	3	100
2	7	4	100	2	4	100	3	3	100
3	5	4	100	2	4	100	2	3	100
4	7	4	100	2	4	100	2	3	100
5	4	4	100	2	4	100	3	3	100
6	5	4	100	1	4	100	3	3	100
7	6	4	100	1	4	100	2	3	100
8	12	4	100	1	4	100	2	3	100
9	2	4	100	1	4	100	3	3	100
10	1	4	100	5	4	100	2	3	100
11	14	4	100	1	4	100	12	3	100
12	2	4	100	2	4	100	3	3	100
13	1	4	100	2	4	100	3	3	100
14	3	4	100	1	4	100	3	3	100
15	3	4	100	2	4	100	2	3	100
16	3	4	100	2	4	100	4	3	100
17	3	4	100	2	4	100	2	3	100
18	17	4	100	2	4	100	2	3	100
19	3	4	100	3	4	100	3	3	100
20	5	4	100	3	4	100	3	3	100
21	4	4	100	3	4	100	4	3	100
22	4	4	100	2	4	100	3	3	100
23	6	4	100	2	4	100	2	3	100
24	5	4	100	3	4	100	3	3	100
25	3	4	100	4	3	100	3	3	100
26	1	4	100	2	3	100	2	3	100
27	1	4	100	2	3	100	4	3	100
28	2	4	100	2	3	100	4	3	100
29	2	4	100				3	3	100
30	3	4	100				4	3	100
31	2	4	100				3	3	100
Limits	75	30	90	75	30	90	75	30	90

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

Daily Effluent Results: Suspended Solids

Day	January 2021			February 2021			March 2021		
	Results	Geometric Mean	Percent Compliance	Results	Geometric Mean	Percent Compliance	Results	Geometric Mean	Percent Compliance
	g/m^3	g/m^3	%	g/m^3	g/m^3	%	g/m^3	g/m^3	%
1	10	4	100	5	4	100	3	3	100
2	5	4	100	12	4	100	6	3	100
3	9	4	100	5	4	100	6	3	100
4	10	4	100	3	4	100	3	3	100
5	4	4	100	3	4	100	5	3	100
6	8	4	100	3	4	100	3	3	100
7	9	4	100	3	4	100	4	3	100
8	40	4	100	5	4	100	3	3	100
9	7	4	100	3	4	100	2	3	100
10	4	4	100	6	4	100	2	3	100
11	65	4	100	3	4	100	3	3	100
12	9	4	100	3	4	100	3	3	100
13	6	4	100	3	4	100	3	3	100
14	11	4	100	2	4	100	6	3	100
15	7	4	100	4	4	100	5	3	100
16	11	4	100	3	4	100	4	3	100
17	10	4	100	3	4	100	2	3	100
18	23	4	100	4	4	100	5	3	100
19	10	4	100	3	4	100	3	3	100
20	5	4	100	5	4	100	3	3	100
21	120	4	100	7	4	100	3	3	100
22	7	4	100	5	4	100	2	3	100
23	12	4	100	2	4	100	2	3	100
24	5	4	100	3	4	100	2	3	100
25	4	4	100	5	3	100	3	3	100
26	4	4	100	5	3	100	3	3	100
27	3	4	100	6	3	100	4	3	100
28	3	4	100	3	3	100	3	3	100
29	3	4	100				3	3	100
30	9	4	100				4	3	100
31	3	4	100				4	3	100
Limits	**75**	**30**	**90**	**75**	**30**	**90**	**75**	**30**	**90**

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

Daily Effluent Results: Faecal Coliforms

Day	January 2021			February 2021			March 2021		
	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	104			141			119		
2	147			190			63		
3	90			393			167		
4	105			274			160		
5	166			99			117		
6	101			12			30		
7	187			20			27		
8	140			17			97		
9	41			253			479		
10	68			126			218		
11	454			56			418		
12	290			67			9		
13	66			25			7		
14	24			57			5		
15	480			98			77		
16	181			3			88		
17	182			96			30		
18	7442			31			100		
19	473			30			104		
20	373			19			17		
21	460			23			13		
22	110			43			74		
23	123			27			484		
24	73			21			5		
25	150			10			12		
26	301			11			6		
27	225			26			8		
28	317			3	57	100	4		
29	79						117		
30	75						177		
31	128	176	95				69	64	100
Limits	**2000**	**1000**	**85**	**2000**	**1000**	**85**	**2000**	**1000**	**85**

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^3 percent compliance limit.

Shoreline Monitoring Data: Te Korohiwa Rocks

Date	Enterococci	Faecal Coliforms	Wind Direction	Wind Strength	Tide	Sea Conditions	WWTP Bypass/Overflow Event	Possible Source (if out of spec)
dd/mm/yyyy	cfu/100mL	cfu/100mL	--	--	--	--	Y/N	--
26/01/2021	66	360	N	Light	Mid	Flood	N	N/A
24/02/2021	1.8	1.8	N	Light	Low	Flood	N	N/A
25/02/2021	7.3	31	S	Moderate	High	Ebb	N	N/A
27/02/2021	3.6	11	N	Calm	Low	Flood	N	N/A
1/03/2021	22	50	NW	Light	Mid	Flood	N	N/A
3/03/2021	1.8	1.8	N	Moderate	Mid	Flood	N	N/A
6/03/2021	15	1.8	N	Moderate	Mid	Ebb	N	N/A
15/03/2021	18	31.0	N	Moderate	Low	Flood	N	N/A
23/03/2021	1.8	1.8	NW	Light	Mid	Flood	Y - 24hr	N/A
25/03/2021	22	5.5	N	Light	Mid	Flood	Y - 72hr	N/A
28/03/2021	1.8	1.8	N	Light	Mid	Ebb	Y - 144hr	N/A

Shoreline Monitoring Data: 200m West of Outfall

Date	Enterococci	Faecal Coliforms	Wind Direction	Wind Strength	Tide	Sea Conditions	WWTP Bypass/Overflow Event	Possible Source (if out of spec)
dd/mm/yyyy	cfu/100mL	cfu/100mL	--	--	--	--	Y/N	--
26/01/2021	9.1	13	N	Light	Mid	Flood	N	N/A
24/02/2021	1.8	5.5	N	Light	Low	Flood	N	N/A
25/02/2021	52	170	S	Moderate	High	Ebb	N	N/A
27/02/2021	42	9.1	N	Calm	Low	Flood	N	N/A
1/03/2021	18	7.3	NW	Light	Mid	Flood	N	N/A
3/03/2021	18	42	N	Moderate	Mid	Flood	N	N/A
6/03/2021	13	2.6	N	Moderate	Mid	Ebb	N	N/A
15/03/2021	18	22	N	Moderate	Low	Flood	N	N/A
23/03/2021	1.8	1.8	NW	Light	Mid	Flood	Y - 24hr	N/A
25/03/2021	1.8	13	N	Light	Mid	Flood	Y - 72hr	N/A
28/03/2021	5.5	5.5	N	Light	Mid	Ebb	Y - 144hr	N/A

Shoreline Monitoring Data: 200m East of Outfall

Date	Enterococci	Faecal Coliforms	Wind Direction	Wind Strength	Tide	Sea Conditions	WWTP Bypass/Overflow Event	Possible Source (if out of spec)
dd/mm/yyyy	cfu/100mL	cfu/100mL	--	--	--	--	Y/N	--
26/01/2021	78	170	N	Light	Mid	Flood	N	N/A
24/02/2021	1.8	1.8	N	Light	Low	Flood	N	N/A
25/02/2021	9.1	31	S	Moderate	High	Ebb	N	N/A
27/02/2021	40	16	N	Calm	Low	Flood	N	N/A
1/03/2021	1.8	13	NW	Light	Mid	Flood	N	N/A
3/03/2021	1.8	9.1	N	Moderate	Mid	Flood	N	N/A
6/03/2021	13	1.8	N	Moderate	Mid	Ebb	N	N/A
15/03/2021	1.8	68.0	N	Moderate	Low	Flood	N	N/A
23/03/2021	1.8	9.1	NW	Light	Mid	Flood	Y - 24hr	N/A
25/03/2021	11	1.8	N	Light	Mid	Flood	Y - 72hr	N/A
28/03/2021	13	1.8	N	Light	Mid	Ebb	Y - 144hr	N/A

Shoreline Monitoring Data: Titahi Bay Beach South

Date	Enterococci	Faecal Coliforms	Wind Direction	Wind Strength	Tide	Sea Conditions	WWTP Bypass/Overflow Event	Possible Source (if out of spec)
dd/mm/yyyy	cfu/100mL	cfu/100mL	--	--	--	--	Y/N	--
26/01/2021	1.8	3.6	N	Light	Mid	Flood	N	N/A
24/02/2021	1.8	1.8	N	Light	Low	Flood	N	N/A
25/02/2021	1.8	20	S	Moderate	High	Ebb	N	N/A
27/02/2021	11	5.5	N	Calm	Low	Flood	N	N/A
1/03/2021	9.1	13	NW	Light	Mid	Flood	N	N/A
3/03/2021	9.1	15	N	Moderate	Mid	Flood	N	N/A
6/03/2021	13	5.5	N	Moderate	Mid	Ebb	N	N/A
15/03/2021	9.1	1.8	N	Moderate	Low	Flood	N	N/A
23/03/2021	11.0	1.8	NW	Light	Mid	Flood	Y - 24hr	N/A
25/03/2021	7.3	7.3	N	Light	Mid	Flood	Y - 72hr	N/A
28/03/2021	1.8	1.8	N	Light	Mid	Ebb	Y - 144hr	N/A

Shoreline Monitoring Data: Titahi Bay Beach

Date	Enterococci	Faecal Coliforms	Wind Direction	Wind Strength	Tide	Sea Conditions	WWTP Bypass/Overflow Event	Possible Source (if out of spec)
dd/mm/yyyy	cfu/100mL	cfu/100mL	--	--	--	--	Y/N	--
26/01/2021	200	200	N	Light	Mid	Flood	N	N/A
24/02/2021	3.6	1.8	N	Light	Low	Flood	N	N/A
25/02/2021	880	520	S	Moderate	High	Ebb	N	Unknown
27/02/2021	11	7.3	N	Calm	Low	Flood	N	N/A
1/03/2021	90	84	NW	Light	Mid	Flood	N	N/A
3/03/2021	1.8	1.8	N	Moderate	Mid	Flood	N	N/A
6/03/2021	13	1.8	N	Moderate	Mid	Ebb	N	N/A
15/03/2021	1.8	64.0	N	Moderate	Low	Flood	N	N/A
23/03/2021	1.8	1.8	NW	Light	Mid	Flood	Y - 24hr	N/A
25/03/2021	3.6	5.5	N	Light	Mid	Flood	Y - 72hr	N/A
28/03/2021	1.8	1.8	N	Light	Mid	Ebb	Y - 144hr	N/A

Shoreline Monitoring Data: Mount Cooper

Date	Enterococci	Faecal Coliforms	Wind Direction	Wind Strength	Tide	Sea Conditions	WWTP Bypass/Overflow Event	Possible Source (if out of spec)
dd/mm/yyyy	cfu/100mL	cfu/100mL	--	--	--	--	Y/N	--
26/01/2021	1.8	1.8	N	Light	Mid	Flood	N	N/A
24/02/2021	1.8	1.8	N	Light	Low	Flood	N	N/A
25/02/2021	13	5.5	S	Moderate	High	Ebb	N	N/A
27/02/2021	16	7.3	N	Calm	Low	Flood	N	N/A
1/03/2021	170	230	NW	Light	Mid	Flood	N	N/A
3/03/2021	5.5	9.1	N	Moderate	Mid	Flood	N	N/A
6/03/2021	7.3	5.5	N	Moderate	Mid	Ebb	N	N/A
15/03/2021	1.8	82.0	N	Moderate	Low	Flood	N	N/A
23/03/2021	1.8	1.8	NW	Light	Mid	Flood	Y - 24hr	N/A
25/03/2021	31	1.8	N	Light	Mid	Flood	Y - 72hr	N/A
28/03/2021	1.8	1.8	N	Light	Mid	Ebb	Y - 144hr	N/A

Shoreline Monitoring Data: Control

Date	Enterococci	Faecal Coliforms	Wind Direction	Wind Strength	Tide	Sea Conditions	WWTP Bypass/Overflow Event	Possible Source (if out of spec)
dd/mm/yyyy	cfu/100mL	cfu/100mL	--	--	--	--	Y/N	--
26/01/2021	1.8	1.8	N	Light	Mid	Flood	N	N/A
24/02/2021	1.8	1.8	N	Light	Low	Flood	N	N/A
25/02/2021	11	5.5	S	Moderate	High	Ebb	N	N/A
27/02/2021	18	15	N	Calm	Low	Flood	N	N/A
1/03/2021	3.6	18	NW	Light	Mid	Flood	N	N/A
3/03/2021	1.8	1.8	N	Moderate	Mid	Flood	N	N/A
6/03/2021	7.3	3.6	N	Moderate	Mid	Ebb	N	N/A
15/03/2021	18	44.0	N	Moderate	Low	Flood	N	N/A
23/03/2021	1.8	1.8	NW	Light	Mid	Flood	Y - 24hr	N/A
25/03/2021	9.1	3.6	N	Light	Mid	Flood	Y - 72hr	N/A
28/03/2021	1.8	1.8	N	Light	Mid	Ebb	Y - 144hr	N/A

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

APPENDIX II

Heavy Metals and Specified Compounds Results

Watercare Services Limited
52 Aintree Ave, Mangere, Auckland, 2022
PO Box 107028, Auckland, 2150
T: (09) 539 7600
clientsupport@water.co.nz
www.watercarelabs.co.nz

Certificate of Analysis
Laboratory Reference:210104-013

Attention:	Colin Gerrard	*Final Report:*	**396590-0**
Client:	**VEOLIA WATER**	*Report Issue Date:*	**22-Jan-2021**
Address:	**127 Stewart Duff Drive, Rongotai, 6022**	*Received Date:*	**13-Jan-2021**
Client Reference:	**Porirua WWTP Monthly**		
Purchase Order:	**7300116623**	*Quote Reference :*	**11592**

Sample Details		WATERS	WATERS	WATERS
Lab Sample ID:		**210104-013-1**	**210104-013-2**	**210104-013-3**
Client Sample ID:				
Sample Date/Time		13/01/2021 09:11	13/01/2021 09:12	13/01/2021 09:13
Description:		Porirua Influent Grab 1Month	Porirua Effluent Grab 1Month	Porirua Effluent Composite 1Quaterly
General Testing				
Ammoniacal Nitrogen (as N)	mg/L	29.7	0.469	-
COD (as O2)	mg/L	1200	62	-
Total Cyanide	mg/L	-	-	<0.005
Total Nitrogen (as N)	mg/L	70	2.1	-
Total Phosphorus (as P)	mg/L	12.5	2.92	-
Metals				
Total Metals by ICP-MS—Trace (Default Digest)				
Arsenic (Total)	mg/L	-	-	0.0016
Cadmium (Total)	mg/L	-	-	<0.00005
Chromium (Total)	mg/L	-	-	0.0023
Copper (Total)	mg/L	-	-	0.0036
Lead (Total)	mg/L	-	-	0.00039
Mercury (Total)	mg/L	-	-	<0.00005
Nickel (Total)	mg/L	-	-	0.001
Zinc (Total)	mg/L	-	-	0.045
Organics				
Phenols (Recoverable) by Gas Chromatography-Mass Spectrometry(Trace level)				
2,3,4,6-tetrachlorophenol	mg/L	-	-	<0.001
2,4,5-trichlorophenol	mg/L	-	-	<0.001
2,4,6-trichlorophenol	mg/L	-	-	<0.004
2,4-dichlorophenol	mg/L	-	-	<0.001
2,4-dimethylphenol	mg/L	-	-	<0.001
2,6-dichlorophenol	mg/L	-	-	<0.001
2-chlorophenol	mg/L	-	-	<0.001
2-methyl 4,6-dinitrophenol	mg/L	-	-	<0.001
2-methylphenol	mg/L	-	-	<0.001
2-nitrophenol	mg/L	-	-	<0.002
4-Chloro-3-methylphenol	mg/L	-	-	<0.001
4-methylphenol	mg/L	-	-	<0.001
Pentachlorophenol	mg/L	-	-	<0.001
Phenol	mg/L	-	-	<0.002
VOC by Gas Chromatography-Mass Spectrometry (Trace level)				
1-1-1-2-tetrachloroethane, Trace level	mg/L	-	-	<0.0001
1-1-1-trichloroethane, Trace level	mg/L	-	-	<0.0001
1-1-2-2-tetrachloroethane, Trace level	mg/L	-	-	<0.0001
1-1-2-trichloroethane, Trace level	mg/L	-	-	<0.0001

Sample Details (continued)		WATERS	WATERS	WATERS
Lab Sample ID:		**210104-013-1**	**210104-013-2**	**210104-013-3**
Client Sample ID:				
Sample Date/Time:		13/01/2021 09:11	13/01/2021 09:12	13/01/2021 09:13
Description:		Porirua Influent Grab 1Month	Porirua Effluent Grab 1Month	Porirua Effluent Composite 1Quaterly
Organics				
VOC by Gas Chromatography-Mass Spectrometry (Trace level)				
1-1-dichloroethane, Trace level	mg/L	-	-	<0.0001
1-1-dichloroethene, Trace level	mg/L	-	-	<0.0005
1-1-dichloropropene, Trace level	mg/L	-	-	<0.0001
1-2-3-trichlorobenzene, Trace level	mg/L	-	-	<0.0001
1-2-3-trichloropropane, Trace level	mg/L	-	-	<0.0001
1-2-4-trichlorobenzene, Trace level	mg/L	-	-	<0.0001
1-2-4-trimethylbenzene, Trace level	mg/L	-	-	<0.0001
1-2-dibromo-3-chloropropane, Trace level	mg/L	-	-	<0.0001
1-2-dibromoethane, Trace level	mg/L	-	-	<0.0001
1-2-dichlorobenzene, Trace level	mg/L	-	-	<0.0001
1-2-dichloroethane, Trace level	mg/L	-	-	<0.0001
1-2-dichloropropane, Trace level	mg/L	-	-	<0.0001
1-3-5-trimethylbenzene, Trace level	mg/L	-	-	<0.0001
1-3-dichlorobenzene, Trace level	mg/L	-	-	<0.0001
1-3-dichloropropane, Trace level	mg/L	-	-	<0.0001
1-4-dichlorobenzene, Trace level	mg/L	-	-	<0.0001
2-2-dichloropropane, Trace level	mg/L	-	-	<0.0005
2-chlorotoluene, Trace level	mg/L	-	-	<0.0001
4-chlorotoluene, Trace level	mg/L	-	-	<0.0001
benzene, Trace level	mg/L	-	-	<0.0001
bromobenzene, Trace level	mg/L	-	-	<0.0001
bromodichloromethane, Trace level	mg/L	-	-	<0.0001
bromoform, Trace level	mg/L	-	-	<0.0001
bromomethane, Trace level	mg/L	-	-	<0.0005
carbon tetrachloride, Trace level	mg/L	-	-	<0.0001
chlorobenzene, Trace level	mg/L	-	-	<0.0001
chloroform, Trace level	mg/L	-	-	<0.0001
chloromethane, Trace level	mg/L	-	-	<0.0005
cis-1-2-dichloroethylene, Trace level	mg/L	-	-	<0.0001
cis-1-3-dichloropropene, Trace level	mg/L	-	-	<0.0001
dibromochloromethane, Trace level	mg/L	-	-	<0.0001
dibromomethane, Trace level	mg/L	-	-	<0.0001
dichlorodifluoromethane, Trace level	mg/L	-	-	<0.0005
ethylbenzene, Trace level	mg/L	-	-	<0.0001
ethylchloride, Trace level	mg/L	-	-	<0.0001
fluorotrichloromethane, Trace level	mg/L	-	-	<0.0001
Hexachlorobutadiene, Trace level	mg/L	-	-	<0.0001
iso-propylbenzene, Trace level	mg/L	-	-	<0.0001
m- & p-xylene, Trace level	mg/L	-	-	<0.0001
methylene chloride, Trace level	mg/L	-	-	<0.0005
Naphthalene, Trace level	mg/L	-	-	<0.0001
n-butylbenzene, Trace level	mg/L	-	-	<0.0001
n-propylbenzene, Trace level	mg/L	-	-	<0.0001
o-xylene, Trace level	mg/L	-	-	<0.0001
p-isopropyl toluene, Trace level	mg/L	-	-	<0.0001
sec-butylbenzene, Trace level	mg/L	-	-	<0.0001
styrene, Trace level	mg/L	-	-	0.0012
tert-butyl benzene, Trace level	mg/L	-	-	<0.0001
tetrachloroethylene, Trace level	mg/L	-	-	<0.0001
THM Ratio, Trace level		-	-	0
toluene, Trace level	mg/L	-	-	0.0017
trans-1-2-dichloroethene, Trace level	mg/L	-	-	<0.0001

Sample Details (continued)		WATERS	WATERS	WATERS
Lab Sample ID:		**210104-013-1**	**210104-013-2**	**210104-013-3**
Client Sample ID:				
Sample Date/Time:		13/01/2021 09:11	13/01/2021 09:12	13/01/2021 09:13
Description:		Porirua Influent Grab 1Month	Porirua Effluent Grab 1Month	Porirua Effluent Composite 1Quaterly
Organics				
VOC by Gas Chromatography-Mass Spectrometry (Trace level)				
trans-1-3-dichloropropene, Trace level	mg/L	-	-	<0.0001
trichloroethylene, Trace level	mg/L	-	-	<0.0001
vinyl chloride, Trace level	mg/L	-	-	<0.0001

*Results marked with * are not accredited to International Accreditation New Zealand*

Where samples have been supplied by the client, they are tested as received.

The results of analysis contained in this report relate only to the sample(s) tested. A dash indicates no test performed.

Reference Methods

The sample(s) referred to in this report were analysed by the following method(s)

Analyte	Method Reference	MDL	Samples	Location
General Testing				
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
Metals				
Total Metals by ICP-MS—Trace (Default Digest)				
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
Organics				
Phenols (Recoverable) by Gas Chromatography-Mass Spectrometry(Trace level)				
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
VOC by Gas Chromatography-Mass Spectrometry (Trace level)				
1-1-1-2-tetrachloroethane, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
1-1-1-trichloroethane, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
1-1-2-2-tetrachloroethane, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland

Organics

VOC by Gas Chromatography-Mass Spectrometry (Trace level)

1-1-2-trichloroethane, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
1-1-dichloroethane, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
1-1-dichloroethene, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.0005 mg/L	3	Auckland
1-1-dichloropropene, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
1-2-3-trichlorobenzene, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
1-2-3-trichloropropane, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
1-2-4-trichlorobenzene, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
1-2-4-trimethylbenzene, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
1-2-dibromo-3-chloropropane, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
1-2-dibromoethane, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
1-2-dichlorobenzene, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
1-2-dichloroethane, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
1-2-dichloropropane, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
1-3-5-trimethylbenzene, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
1-3-dichlorobenzene, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
1-3-dichloropropane, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
1-4-dichlorobenzene, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
2-2-dichloropropane, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.0005 mg/L	3	Auckland
2-chlorotoluene, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
4-chlorotoluene, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
benzene, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
bromobenzene, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
bromodichloromethane, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
bromoform, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
bromomethane, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.0005 mg/L	3	Auckland
carbon tetrachloride, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
chlorobenzene, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
chloroform, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
chloromethane, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.0005 mg/L	3	Auckland
cis-1-2-dichloroethylene, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
cis-1-3-dichloropropene, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
dibromochloromethane, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
dibromomethane, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
dichlorodifluoromethane, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.0005 mg/L	3	Auckland
ethylbenzene, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
ethylchloride, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland

Organics

VOC by Gas Chromatography-Mass Spectrometry (Trace level)

fluorotrichloromethane, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
Hexachlorobutadiene, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
iso-propylbenzene, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
m- & p-xylene, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
methylene chloride, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.0005 mg/L	3	Auckland
Naphthalene, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
n-butylbenzene, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
n-propylbenzene, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
o-xylene, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
p-isopropyl toluene, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
sec-butylbenzene, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
styrene, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
tert-butyl benzene, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
tetrachloroethylene, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
THM Ratio, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified		3	Auckland
toluene, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
trans-1-2-dichloroethene, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
trans-1-3-dichloropropene, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
trichloroethylene, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland
vinyl chloride, Trace level	APHA (online edition) 6200 B (Purge and Trap) Modified	0.00010 mg/L	3	Auckland

Preparations

Digest for Total Metals in Liquids	In House (4:1 Nitric:Hydrochloric Acid, 95°C 2 hours)		3	Auckland

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 Operations Manager.

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.

Watercare Laboratory Services is a division of Watercare Services Limited .

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