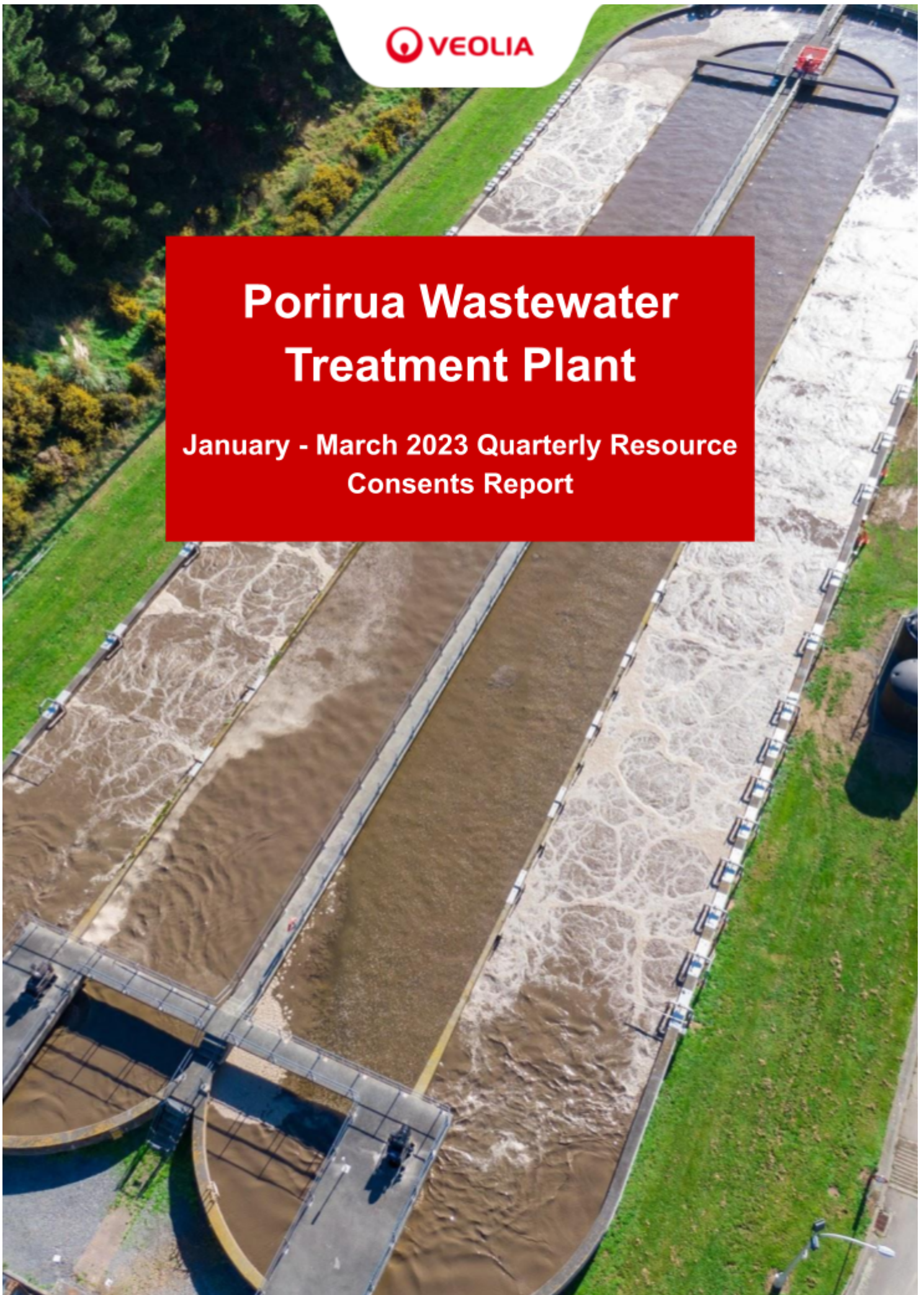




Porirua Wastewater Treatment Plant

January - March 2023 Quarterly Resource
Consents Report



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CONTROL SHEET

Document Title: Porirua Wastewater Treatment Plant January to March 2023 Quarterly Resource Consents Report

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DOCUMENT CONTROL REGISTER

Version	Status	Date	Details of Revision
0	Draft	24/03/2023	Original version for review.
1	Final	24/03/2023	Internally reviewed.

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 2023 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 January to March 2023 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/m³ and no more than 10% of 90 consecutive daily values shall exceed 75g/m³.
 - ii. Suspended Solids : Geometric mean of 90 consecutive daily suspended solids values shall not exceed 30g/m³ and no more than 10% of 90 consecutive daily values shall exceed 75g/m³.
- 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 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	January 2023			February 2023			March 2023		
	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	4	8	100	4	6	100	3	5	100
2	6	8	100	61	7	100	3	5	100
3	6	8	100	3	6	100	4	5	100
4	6	8	100	4	6	100	5	5	100
5	6	8	100	5	6	100	5	5	100
6	6	8	100	3	6	100	4	5	100
7	3	8	100	3	6	100	8	5	100
8	3	8	100	33	6	100	4	5	100
9	3	8	100	24	6	100	4	5	100
10	3	7	100	3	6	100	10	5	100
11	3	7	100	3	6	100	10	5	100
12	3	7	100	3	6	100	4	5	100
13	6	7	100	6	6	100	4	5	100
14	21	7	100	15	6	100	4	5	100
15	3	7	100	15	6	100	4	5	100
16	3	7	100	7	6	100	4	5	100
17	3	7	100	3	6	100	4	5	100
18	4	7	100	4	6	100	4	5	100
19	20	7	100	4	5	100	4	5	100
20	6	7	100	4	5	100	3	5	100
21	4	7	100	3	5	100	3	5	100
22	11	7	100	3	5	100	3	5	100
23	10	7	100	3	5	100	8	5	100
24	5	7	100	10	5	100	9	5	100
25	5	7	100	4	5	100	8	5	100
26	5	7	100	3	5	100	8	5	100
27	6	7	100	3	5	100	8	5	100
28	4	7	100	3	5	100	8	5	100
29	4	7	100	-	-	-	3	5	100
30	3	7	100	-	-	-	3	5	100
31	4	7	100	-	-	-	3	5	100
Limits	75	30	90	75	30	90	75	30	90

Table 3: BOD₅ Geometric Mean and Percent Compliance

Please note that analytical results highlighted in amber are above the 30g/m³ geometric mean limit. Analytical results highlighted in red are above the 75g/m³ percent compliance limit.

(ii) Final Effluent Suspended Solids

Day	January 2023			February 2023			March 2023		
	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	6	7	100	6	7	100	6	7	100
2	6	7	100	43	7	100	6	7	100
3	6	7	100	6	7	100	6	7	100
4	6	7	100	6	7	100	6	7	100
5	6	7	100	6	7	100	6	7	100
6	6	7	100	6	7	100	6	7	100
7	6	7	100	6	7	100	6	7	100
8	6	7	100	9	7	100	6	7	100
9	6	7	100	9	7	100	6	7	100
10	6	7	100	6	7	100	6	7	100
11	6	7	100	6	7	100	6	7	100
12	6	7	100	6	7	100	6	7	100
13	6	7	100	6	7	100	6	7	100
14	58	7	100	14	7	100	6	7	100
15	6	7	100	17	7	100	6	7	100
16	6	7	100	8	7	100	6	7	100
17	6	7	100	6	7	100	6	7	100
18	6	7	100	6	7	100	6	7	100
19	39	7	100	6	7	100	6	7	100
20	6	7	100	6	7	100	6	7	100
21	6	7	100	6	7	100	6	7	100
22	6	7	100	6	7	100	6	7	100
23	6	7	100	6	7	100	6	7	100
24	6	7	100	9	7	100	6	7	100
25	6	7	100	6	7	100	6	7	100
26	6	7	100	6	7	100	6	7	100
27	5	7	100	6	7	100	6	7	100
28	6	7	100	6	7	100	6	7	100
29	6	7	100	-	-	-	6	7	100
30	5	7	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/m³ geometric mean limit. Analytical results highlighted in red are above the 75g/m³ percent compliance limit.

Section (b)

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

Day	January 2023			February 2023			March 2023		
	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	100	41	100	17	86	95	235	174	100
2	100			2647					
3	10			2326					
4	35			447					
5	14			341					
6	100			10					
7	200			3014					
8	13			1833					
9	32			3394					
10	283			1407					
11	88			20					
12	32			10					
13	10			200					
14	14			1049					
15	4			105					
16	57			148					
17	30			14					
18	10			10					
19	100			10					
20	548			1656					
21	32			2600					
22	100			980					
23	14			424					
24	112			14					
25	118			45					
26	145			10					
27	32			490					
28	10			592					
29	10			-					
30	10			-					
31	55			-					
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/m³ percent compliance limit.

It was agreed between WWL and GWRC that the faecal coliform compliance for March 2023 would be assessed using the samples from 10th March to 31st March. The omission of 1st to 9th March samples were due to correct sampling protocol were not followed in obtaining the faecal effluent sample.

Section (c)

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

Compound	Units	Limit	30/01/2023
Arsenic	g/m ³	0.5	0.002
Cadmium as the element	g/m ³	0.05	0.00100
Chromium	g/m ³	0.2	0.008
Copper as the element	g/m ³	0.8	0.042
Nickel as the element	g/m ³	0.05	0.097
Lead as the element	g/m ³	0.5	0.003
Zinc as the element	g/m ³	2.0	0.00100
Mercury as the element	g/m ³	0.002	0.00300
Phenol	g/m ³	0.2	0.010
Cyanide as CN	g/m ³	0.1	0.005
Chlorinated hydrocarbons	g/m ³	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

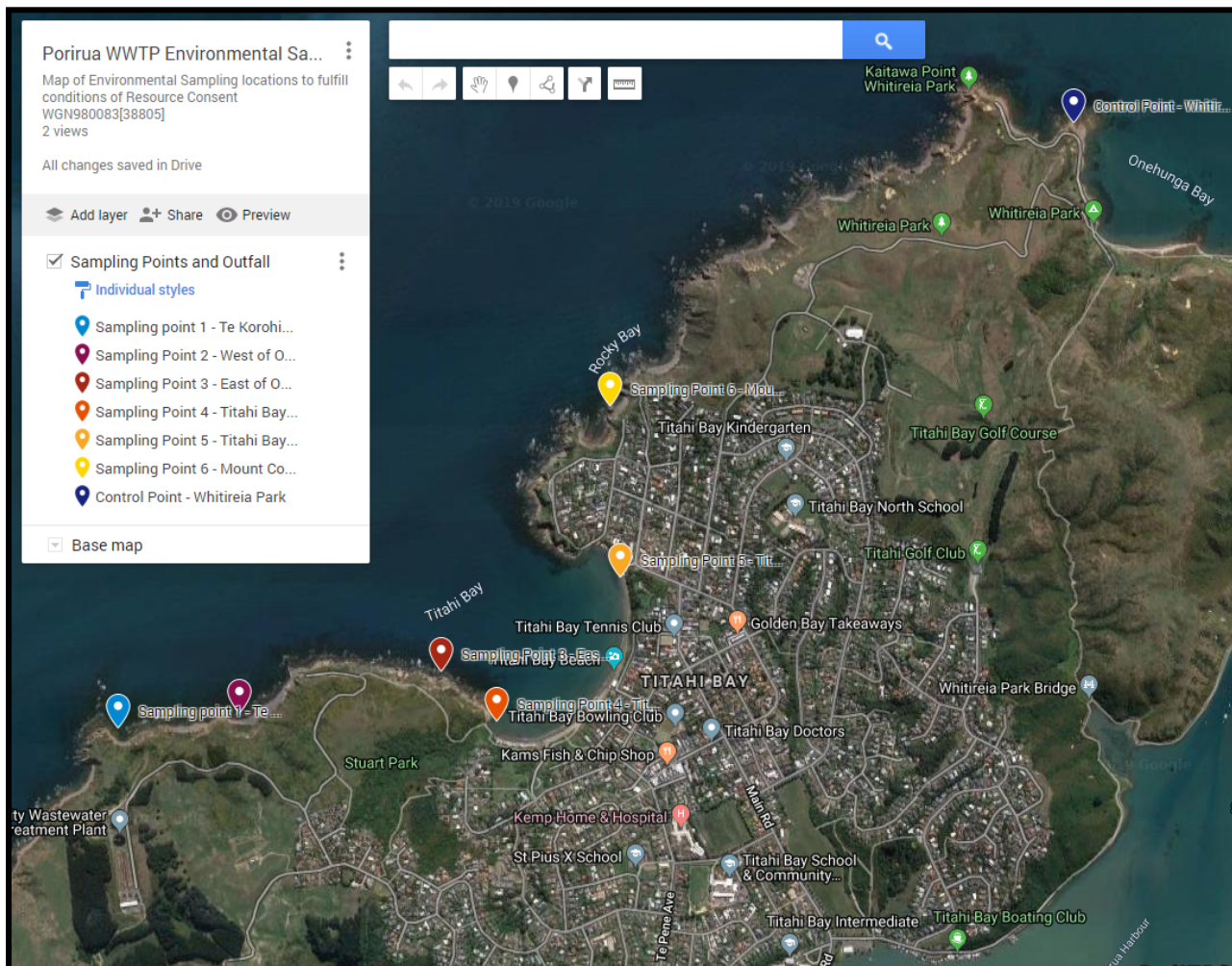


Figure 1: Shoreline Monitoring Sampling Sites

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). 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	0	0
February	0	0
March	0	3

Table 7: Monthly Bypass and Overflow Events

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 2023 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	Monitoring Results
dd/ mmm/ yyyy	dd/ mmm/ yyyy	hrs:mins	m ³	m ³	--	Y/N		
15/03/2023	15/03/2023	00:06	156	16	10:1	N	Mechanical fault of the Duron UV weir penstock	Notifications sent and sampling campaign initiated.
21/03/2023	21/03/2023	03:10	8402	48	175:1	N	Mechanical failure of the rotor that controls the Duron UV inlet penstock	Notifications sent and sampling campaign initiated.
28/03/2023	28/03/2023	01:24	4475	3265	1:1	N	Failure of the control system of the Duron UV unit.	Notifications sent and sampling campaign initiated.

Table 8: Discharge Events

WGN980083 (02)

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 2023 reporting period.

**APPENDIX I: Shoreline Monitoring
Data**

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	--
17/01/2023	17:10	10	10	NW	Light	Mid	Flood	N	NA
10/02/2023	7:25	10	10	S	Moderat	Low	Flood	N	NA
21/03/2023	15:36:00	140	30	S	Light	Mid	Flood	Y	NA
23/03/2023	09:25:00	10	10	N	Light	Low	Flood	Y - 72hr	NA
26/03/2023	08:14:00	70	30	S	Light	Low	Ebb	Y - 144 hr	NA
28/03/2023	09:30:00	10	10	S	Light	Low	Flood	Y	NA
31/03/2023	09:35:00	10	10	NW	Light	Low	Ebb	Y - 72 hr	NA
03/03/2023	09:40:00	10	10	S	Moderate	Low	Flood	Y - 144 hr	NA

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	--
17/01/2023	16:05	45	10	NW	Light	Mid	Flood	N	NA
10/02/2023	7:43	10	10	S	Moderat	Low	Flood	N	NA
15/03/2023	03:05:00	—	1000	S	Light	Low	Flood	Y	NA
21/03/2023	14:36:00	190	1000	S	Light	Mid	Flood	Y	NA
23/03/2023	07:52:00	50	90	N	Light	Low	Flood	Y - 72hr	NA
26/03/2023	08:14:00	120	30	S	Light	Low	Ebb	Y - 144 hr	NA
28/03/2023	08:00:00	60	20	S	Light	Low	Flood	Y	NA
31/03/2023	07:30:00	10	10	NW	Light	Low	Ebb	Y - 72 hr	NA
03/03/2023	08:20:00	1100	1500	S	Moderate	Low	Flood	Y - 144 hr	NA

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	--
17/01/2023	16:25	18	200	NW	Light	Mid	Flood	N	NA
10/02/2023	8:10	10	40	S	Moderat	Low	Flood	N	NA
15/03/2023	03:20:00	—	1000	S	Light	Low	Flood	Y	NA
21/03/2023	16:06:00	160	1000	S	Light	Mid	Flood	Y	NA
23/03/2023	07:36:00	10	10	N	Light	Low	Flood	Y - 72hr	NA
26/03/2023	08:14:00	20	10	S	Light	Low	Ebb	Y - 144 hr	NA
28/03/2023	07:39:00	10	10	S	Light	Low	Flood	Y	NA
31/03/2023	07:52:00	10	10	NW	Light	Low	Ebb	Y - 72 hr	NA
03/03/2023	08:00:00	20	10	S	Moderate	Low	Flood	Y - 144 hr	NA

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	--
17/01/2023	16:35	10	10	NW	Light	Mid	Flood	N	NA
10/02/2023	8:01	10	50	S	Moderat	Low	Flood	N	NA
21/03/2023	14:43:00	180	50	S	Light	Mid	Flood	Y	NA
23/03/2023	07:59:00	50	10	N	Light	Low	Flood	Y - 72hr	NA
26/03/2023	08:14:00	40	10	S	Light	Low	Ebb	Y - 144 hr	NA
28/03/2023	07:53:00	40	10	S	Light	Low	Flood	Y	NA
31/03/2023	07:37:00	20	10	NW	Light	Low	Ebb	Y - 72 hr	NA
03/03/2023	08:13:00	60	30	S	Moderate	Low	Flood	Y - 144 hr	NA

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	--
17/01/2023	16:46	10	20	NW	Light	Mid	Flood	N	NA
10/02/2023	8:19	10	10	S	Moderat	Low	Flood	N	NA
21/03/2023	14:53:00	430	50	S	Light	Mid	Flood	Y	NA
23/03/2023	08:13:00	10	20	N	Light	Low	Flood	Y - 72hr	NA
26/03/2023	08:14:00	40	10	S	Light	Low	Ebb	Y - 144 hr	NA
28/03/2023	08:14:00	50	10	S	Light	Low	Flood	Y	NA
31/03/2023	08:36:00	10	10	NW	Light	Low	Ebb	Y - 72 hr	NA
03/03/2023	08:34:00	20	10	S	Moderate	Low	Flood	Y - 144 hr	NA

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	--
17/01/2023	15:40	10	10	NW	Light	Low	Flood	N	NA
10/02/2023	9:00	10	10	S	Moderat	Low	Flood	N	NA
21/03/2023	15:51:00	200	50	S	Light	Mid	Flood	Y	NA
23/03/2023	07:20:00	100	10	N	Light	Low	Flood	Y - 72hr	NA
26/03/2023	08:14:00	30	10	S	Light	Low	Ebb	Y - 144 hr	NA
28/03/2023	07:20:00	10	10	S	Light	Low	Flood	Y	NA
31/03/2023	08:07:00	20	10	NW	Light	Low	Ebb	Y - 72 hr	NA
03/03/2023	07:42:00	30	10	S	Moderate	Low	Flood	Y - 144 hr	NA

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	--
17/01/2023	17:10	10	10	NW	Light	Low	Flood	N	NA
10/02/2023	9:32	10	10	S	Moderat	Low	Flood	N	NA
21/03/2023	15:14:00	470	50	S	Light	Mid	Flood	Y	NA
23/03/2023	08:42:00	20	10	N	Light	Low	Flood	Y - 72hr	NA
26/03/2023	08:14:00	10	10	S	Light	Low	Ebb	Y - 144 hr	NA
28/03/2023	08:50:00	60	30	S	Light	Low	Flood	Y	NA
31/03/2023	09:05:00	10	10	NW	Light	Low	Ebb	Y - 72 hr	NA
03/03/2023	09:05:00	30	10	S	Moderate	Low	Flood	Y - 144 hr	NA

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**

Food & Water Testing

RESULTS	LOQ
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ZM2H5 Enumeration of Faecal Coliforms By Membrane Filtration

Faecal Coliforms	<10	cfu/100 ml	100
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SAMPLE CODE	812-2023-00012506
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Sampling Point code:	POR_EFF_G_1D	Sampling Point name:	Porirua Effluent Grab 1Day
Reception Date & Time:	31/01/2023 12:13	Analysis Ending Date:	01/02/2023
Analysis Start Date & Time:	31/01/2023 13:35	Sampler(s)	Customer
Sampled Date & Time	31/01/2023 08:10		
Sampled by Eurofins	False		

RESULTS	LOQ
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ZM2H5 Enumeration of Faecal Coliforms By Membrane Filtration

Faecal Coliforms	300	cfu/100 ml	100
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SAMPLE CODE	812-2023-00012507
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Sampling Point code:	POR_EFF_PREUV_G_2W	Sampling Point name:	Porirua Effluent Pre-UV Grab 2Week
Reception Date & Time:	31/01/2023 12:13	Analysis Ending Date:	01/02/2023
Analysis Start Date & Time:	31/01/2023 13:34	Sampler(s)	Customer
Sampled Date & Time	31/01/2023 08:12		
Sampled by Eurofins	False		

RESULTS	LOQ
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ZM2HA Enumeration of Faecal Coliforms By Membrane Filtration

Faecal Coliforms	10	cfu/100 ml	1000
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SAMPLE CODE	812-2023-00012515
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Sampling Point code:	POR_EFF_C_1Q	Sampling Point name:	Porirua Effluent Composite 1Quaterly
Reception Date & Time:	31/01/2023 12:13	Analysis Ending Date:	07/02/2023
Analysis Start Date & Time:	31/01/2023 12:25	Sampler(s)	Customer
Sampled Date & Time	30/01/2023 07:45		

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

NW00U Chlorophenols

2,3,4,6-Tetrachlorophenol	<0.01	mg/l	0.01
2,4-Dichlorophenol	<0.01	mg/l	0.01
2,6-Dichlorophenol	<0.02	mg/l	0.2
2-Chlorophenol (o-chlorophenol)	<0.01	mg/l	0.01
3,4,5-Trichlorophenol	<0.01	mg/l	0.01
4-Chloro-3-cresol	<0.01	mg/l	0.01
Pentachlorophenol	<0.005	mg/l	0.005
Phenol	<0.01	mg/l	0.01
Total of 2,4,5 & 2,4,6-Trichlorophenol	<0.02	mg/l	0.02

NW679 Cyanide

Cyanide	<0.005	mg/l	0.005
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NW04T Organochlorine Pesticides

2,3-Diuron	<0.001	mg/l	0.001
a-BHC	<0.0001	mg/l	0.0001
a-chlordane	<0.0001	mg/l	0.0001
Aldrin	<0.001	mg/l	0.001

Food & Water Testing

	RESULTS		LOQ
NW04T Organochlorine Pesticides			
b-BHC	<0.0001	mg/l	0.0001
cis-Permethrin	<0.0001	mg/l	0.0001
Dieldrin	<0.0001	mg/l	0.0001
Endosulfan I	<0.001	mg/l	0.001
Endosulfan II	<0.005	mg/l	0.005
Endosulfan Sulfate	<0.0001	mg/l	0.0001
Endrin Aldehyde	<0.001	mg/l	0.01
Endrin ketone	<0.0001	mg/l	0.0001
Endrin Ketone	<0.0001	mg/l	0.0001
Gamma-Chlordane	<0.001	mg/l	0.001
Heptachlor	<0.0001	mg/l	0.0001
Heptachlor Epoxide	<0.0001	mg/l	0.0001
Hexachlorobenzene	<0.0001	mg/l	0.0001
Lindane (γ -BHC)	<0.0001	mg/l	0.0001
Methoxychlor	<0.0001	mg/l	0.0001
p,p'-DDD	<0.0001	mg/l	0.0001
p,p'-DDE	<0.0001	mg/l	0.0001
p,p'-DDT	<0.001	mg/l	0.001
Procymidone	<0.0001	mg/l	0.0001
Propanil	<0.001	mg/l	0.001
NW246 PCB			
PCB 1	<0.001	mg/l	0.001
PCB 101	<0.001	mg/l	0.001
PCB 105	<0.001	mg/l	0.001
PCB 114	<0.001	mg/l	0.001
PCB 118	<0.001	mg/l	0.001
PCB 126	<0.001	mg/l	0.001
PCB 128	<0.001	mg/l	0.001
PCB 138	<0.001	mg/l	0.001
PCB 153	<0.001	mg/l	0.001
PCB 154	<0.001	mg/l	0.001
PCB 156	<0.001	mg/l	0.001
PCB 158	<0.001	mg/l	0.001
PCB 166	<0.001	mg/l	0.001
PCB 169	<0.001	mg/l	0.001
PCB 170	<0.001	mg/l	0.001
PCB 171	<0.001	mg/l	0.001
PCB 179	<0.001	mg/l	0.001
PCB 180	<0.001	mg/l	0.001
PCB 183	<0.001	mg/l	0.001
PCB 187	<0.001	mg/l	0.001
PCB 189	<0.001	mg/l	0.001
PCB 201	<0.001	mg/l	0.001
PCB 28	<0.001	mg/l	0.001
PCB 29	<0.001	mg/l	0.001
PCB 37	<0.001	mg/l	0.001
PCB 44	<0.001	mg/l	0.001
PCB 49	<0.001	mg/l	0.001

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Food & Water Testing

	RESULTS		LOQ
NW246 PCB			
PCB 5	<0.001	mg/l	0.001
PCB 52	<0.001	mg/l	0.001
PCB 60	<0.001	mg/l	0.001
PCB 66	<0.001	mg/l	0.001
PCB 70	<0.001	mg/l	0.001
PCB 74	<0.001	mg/l	0.001
PCB 77	<0.001	mg/l	0.001
PCB 8	<0.001	mg/l	0.001
PCB 82	<0.001	mg/l	0.001
PCB 87	<0.001	mg/l	0.001
PCB 99	<0.001	mg/l	0.001
NW149 Total Arsenic			
Arsenic (As)	0.002	mg/l	0.002
NW154 Total Cadmium			
Cadmium (Cd)	<0.001	mg/l	0.001
NW157 Total Chromium			
Chromium (Cr)	0.008	mg/l	0.001
NW159 Total Copper			
Copper (Cu)	0.042	mg/l	0.002
NW161 Total Lead			
Lead (Pb)	0.003	mg/l	0.001
NW165 Total Mercury			
Mercury (Hg)	<0.001	mg/l	0.001
NW167 Total Nickel			
Nickel (Ni)	0.003	mg/l	0.001
NW177 Total Zinc			
Zinc (Zn)	0.097	mg/l	0.005

LIST OF METHODS			
NW00U	Chlorophenols: LLE followed by LC-MS/MS	NW014	Biochemical Oxygen Demand: APHA Online Edition 5210 B
NW04T	Organochlorine Pesticides: Internal Method, GC-MS/MS	NW149	Total Arsenic: APHA Online Edition 3125 B mod.
NW154	Total Cadmium: APHA Online Edition 3125 B mod.	NW157	Total Chromium: APHA Online Edition 3125 B mod.
NW159	Total Copper: APHA Online Edition 3125 B mod.	NW161	Total Lead: APHA Online Edition 3125 B mod.
NW165	Total Mercury: APHA Online Edition 3125 B mod.	NW167	Total Nickel: APHA Online Edition 3125 B mod.
NW177	Total Zinc: APHA Online Edition 3125 B mod.	NW206	Suspended Solids: APHA Online Edition 2540 D
NW246	PCB: Internal Method, GC-MS/MS	NW679	Cyanide: APHA Online Edition 4500-CN C & E
ZM2H5	Faecal Coliforms E (Water) [NZ] <100 >6 000 000 /100 ml (0-3) m-FC Agar-F: SMEWW 9222D; APHA Online	ZM2HA	Faecal Coliforms E (Water) [NZ] <1 000 >6 000 000 /100 ml (1-3) m-FC Agar-F: SMEWW 9222D; APHA Online

Signature

Marylou Cabral Laboratory Manager

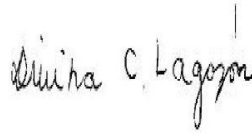



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Food & Water Testing


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- ② Test is subcontracted within Eurofins group and is accredited
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- 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

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