Annual Water Quality Report

July 2025 – June 2026

Watercare

An Auckland Council Organisation

Contents

Introduction 4
Water Treatment Plant Data 4
Distribution Network Data 4
List of Water Treatment Plants and the Distribution Network Zones Supplied ... 5
Water Quality Compliance Data for the Water Treatment Plants 7
Ardmore WTP A Block Treated Water ***7***
Ardmore WTP B1 Block Treated Water ***13***
Cornwall Road WTP Treated Water ***24***
11 Cornwall Road WTP Treated Water ***29***
Helensville WTP Treated Water ***33***
Huia Village WTP Treated Water ***39***
Huia WTP Treated Water ***45***
Muriwai WTP Treated Water ***51***
Papakura WTP Treated Water ***54***
Pukekohe WTP Treated Water ***60***
Snells/Algies WTP Treated Water ***66***
Victoria Avenue WTP Treated Water ***70***
Waikato 175 WTP Treated Water ***75***
Waikato 50 WTP Treated Water ***81***
Waitakere WTP Treated Water ***86***
Waiuku Road WTP Treated Water ***92***
Warkworth Wells WTP Treated Water ***97***
Wellsford WTP Treated Water ***99***
Water Quality Compliance Data for the Distribution Network Zones 105
Anzac Distribution Network Zone ***105***
Auckland Distribution Network Zone ***105***
Bombay Distribution Network Zone ***106***
Buckland Distribution Network Zone ***107***
Central Business District Distribution Network Zone ***107***
Clarks / Waiau Beach Distribution Network Zone ***108***
East Tāmaki / Botany Distribution Network Zone ***108***
Glenbrook Beach Distribution Network Zone ***109***
Glen Eden / New Lynn Distribution Network Zone ***109***
HBC / Waiwera Distribution Network Zone ***110***
Helensville / Parakai Distribution Network Zone ***110***
Henderson Distribution Network Zone ***111***

Hillsborough Distribution Network Zone 112
Hilltop Distribution Network Zone 112
Howick / Pakuranga Distribution Network Zone 113
Huia Village Distribution Network Zone 113
Kitchener Distribution Network Zone 114
Laingholm Distribution Network Zone 114
Māngere Distribution Network Zone 115
Manurewa Distribution Network Zone 115
Maungawhau Distribution Network Zone 116
Montana Distribution Network Zone 116
Mt Hobson Distribution Network Zone 117
Muriwai Distribution Network Zone 117
North Shore South Distribution Network Zone 118
North Shore West Distribution Network Zone 118
Onehunga Distribution Network Zone 119
Supplied by: Ardmore, and Waikato WTPs 119
Oratia Distribution Network Zone 119
Otahuhu Distribution Network Zone 120
Patumahoe Distribution Network Zone 121
Snells / Algies Distribution Network Zone 122
Swanson Distribution Network Zone 122
Te Henga Distribution Network Zone 123
Waiuku Distribution Network Zone 123
Wellsford/Te Hana Distribution Network Zone 124
Whenuapai Distribution Network Zone 125

Introduction

This report provides an overview of the drinking water compliance monitoring data collected from the Water Treatment Plants (**WTPs**) and Distribution Network Zones managed and operated by Watercare Services Limited (**Watercare**).

This data is collected to ensure that Watercare remains compliant with the Drinking Water Standards for New Zealand 2022 (**DWSNZ**) the Drinking Water Quality Assurance Rules 2022 (**DWQAR**), the Aesthetic Values 2022 (**AV**) and duties under the Water Services Act 2021.

A Maximum Acceptable Value (**MAV**) is the concentration of a microbial or chemical constituent below which the presence of that constituent does not pose any significant risk to the health of the consumer over a lifetime consumption of that water.
Where the **MAV** for a determinand was exceeded, Watercare responded in accordance with the DWSNZ, including notifying **TA** of any event and conducting a full investigation. In all cases for Watercare, the investigation findings confirmed that the water supplied to consumers was compliant with the Drinking-water Regulations.
An **AV** is the concentration of specific water quality parameters which have no effect on human health but may affect the aesthetic qualities of a drinking water. Exceeding **AV**s may contribute to consumer complaints regarding the aesthetic qualities of a drinking water supply.
Where the **AV** for a determinand was exceeded, Watercare responded in accordance with DWQAR.
The report consists of two parts. The first part summarises WTP data, and the second part data related to the Distribution Networks.

Water Treatment Plant Data

The MAVs for monitored determinands at Watercare's WTPs are included with the analysis data itself. These compliance data summary tables include confirmation of the WTPs compliance with the applicable MAVs set out in the DWSNZ2022. This indication is only given for those determinands that have an assigned MAV.
If a determinand was not detected in the monitoring period, 'ND' ("not detected") is noted.
The MAVs can be found in the Drinking Water Standards for New Zealand 2022, which is available on the TA website:
https://www.legislation.govt.nz/regulation/public/2022/0168/latest/whole.html.

Distribution Network Data

The Aesthetic Values for parameters in drinking water can be found on TA website:
https://www.taumataarowai.govt.nz/assets/Uploads/Rules-and-standards/Taumata-Arowai-Aesthetic-Values-for-Drinking-Water-2022.pdf

The AVs and MAVs for the monitored determinands in the Distribution Network are summarised below:

Drinking-water Standards for New Zealand 2022 MAVs and AVs

Determinand	AV	MAV	Unit
Chlorine Residual	0.3 - 1.0	5.0	mg/L
pH	7.0 - 8.5	-	pH unit
Turbidity	≤ 5	-	NTU
E. coli (Escherichia coli)	N/A	<1.0/100mL	MPN/100mL
Total coliforms	N/A	N/A	MPN/100mL

List of Water Treatment Plants and the Distribution Network Zones Supplied

Water Treatment Plant	Distribution Network Zones Supplied
Ardmore	Auckland Airport, Auckland, Anzac, Buckland, Central Business District, Clarks / Waiau Beach, East Tamaki / Botany, Glenbrook Beach, Glen Eden / New Lynn, Henderson, High Head, Hillsborough, Howick / Pakuranga / Hilltop, HBC / Waiwera, Kitchener, Maungawhau, Mangere, Mt Hobson, Manurewa, Otara / Papatoetoe / Manukau Central, Oratia, Otahuhu, Patumahoe, North Shore South, North Shore West, Swanson, Te Henga, Whenuapai
Bombay	Bombay
Cornwall Road	Waiuku
11 Cornwall Road	Waiuku
Helensville	Helensville / Parakai
Huia	Auckland, Central Business District, Glen Eden / New Lynn, Henderson, Hillsborough, HBC / Waiwera, Laingholm, Maungawhau, Montana, Oratia, Swanson, Te Henga, North Shore West, Whenuapai
Huia Village	Huia Village
Muriwai	Muriwai
Papakura	This WTP supplies Veolia Water Papakura Distribution Networks
Pukekohe	Anzac, Buckland, Clarks / Waiau Beach, Glenbrook Beach, Hilltop, Kitchener, Patumahoe
Snells / Algies	Snells / Algies
Victoria Avenue	Waiuku

Water Treatment Plant	Distribution Network Zones Supplied
Waikato (Waikato 175)	Auckland Airport, Auckland, Anzac, Buckland, Central Business District, Clarks / Waiau Beach, East Tamaki / Botany, Glenbrook Beach, Glen Eden / New Lynn, Henderson, High Head, Hillsborough, Howick / Pakuranga, Hilltop, HBC / Waiwera, Kitchener, Maungawhau, Mangere, Mt Hobson, Manurewa, Otara / Papatoetoe / Manukau Central, Oratia, Otahuhu, Patumahoe, North Shore South, North Shore West, Swanson, Te Henga, Whenuapai
Waikato 50	Auckland Airport, Auckland, Anzac, Buckland, Central Business District, Clarks / Waiau Beach, East Tamaki / Botany, Glenbrook Beach, Glen Eden / New Lynn, Henderson, High Head, Hillsborough, Howick / Pakuranga, Hilltop, HBC / Waiwera, Kitchener, Maungawhau, Mangere, Mt Hobson, Manurewa, Otara / Papatoetoe / Manukau Central, Oratia, Otahuhu, Patumahoe, North Shore South, North Shore West, Swanson, Te Henga, Whenuapai
Waitakere	Glen Eden / New Lynn, HBC / Waiwera, Oratia, Swanson, Te Henga, Whenuapai
Waiuku Road	Waiuku
Warkworth Wells	Warkworth
Wellsford	Wellsford / Te Hana

Water Quality Compliance Data for the Water Treatment Plants

Ardmore WTP A Block Treated Water

Acid Herbicides									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
1080 (Sodium fluoroacetate)	mg/L	1	ND	ND	ND	0.0001	0.035[1]		√
2,4,5- Trichlorophenoxyacetic acid (2,4,5-T)	mg/L	4	ND	ND	ND	0.0001	0.01		√
2,4-Dichlorophenoxyacetic acid (2,4-D)	mg/L	4	ND	ND	ND	0.0001	0.04		√
4-(2,4-dichlorophenoxyl) butanoic acid (2,4-DB)	mg/L	4	ND	ND	ND	0.0001	0.1		√
Bentazone	mg/L	4	ND	ND	ND	0.0001			
Dichlorprop	mg/L	4	ND	ND	ND	0.0001	0.1		√
MCPA	mg/L	4	ND	ND	ND	0.0001	0.8		√
Mecoprop	mg/L	4	ND	ND	ND	0.0001	0.01		√
Picloram	mg/L	4	ND	ND	ND	0.0001	0.2		√
Triclopyr	mg/L	4	ND	ND	ND	0.0001	0.1		√

1 – The DWSNZ2022 set out two MAVs for 1080: for short-term effect the MAV is 0.035mg/L, for long-term effect the MAV is 0.0035mg/L.

Chemical and Physical									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
UV absorbance at 254nm (abs254)	Abs units	52	0.03	ND	0.01	0.002			
Alkalinity (Total) as $CaCO_3$	mg/L	52	19	13	17.1	1			
Aluminium	mg/L	104	0.03	0.01	0.02	0.005	1		√
Bromate	mg/L	12	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	11	0.02	ND	0.01	0.005			
Calcium	mg/L	12	8.10	6.30	7.10	0.01			

Chemical and Physical cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Calcium Hardness	mg/L	12	20.00	16.00	17.92	0.025			
Chlorate	mg/L	12	ND	ND	ND	0.01	0.8		√
Chloride	mg/L	12	13.00	12.00	12.59	0.02		250	
Chlorine Residual	mg/L	364	1.81	0.86	1.39	0.02	5	0.3-1.0	√
Chlorite	mg/L	2	ND	ND	ND	0.005	0.8		√
Colour	Hazen Units	12	5.00	0.00	1.25	5		15	
Conductivity	mS/m	12	10.3	8.6	9.73	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.02	0.6		√
Fluoride	mg/L	52	0.94	0.02	0.74	0.02	1.5		√
Iodide	mg/L	4	ND	ND	ND	0.001			
Iron	mg/L	104	0.08	ND	0.01	0.001		0.3	
Magnesium	mg/L	12	1.50	1.30	1.36	0.001			
Magnesium Hardness	mg/L	12	6.20	5.40	5.62	0.0041			
Manganese	mg/L	104	0.01	ND	ND	0.0005	0.4	0.04-0.10	√
pH	pH Units	364	8.00	6.90	7.56	0.1		7.0-8.5	
Potassium	mg/L	4	1.10	1.00	1.05	0.05			
Silicon	mg/L	4	14.0	13.0	13.25	0.1			
Sodium	mg/L	4	8.70	7.40	8.15	0.1		200	
Sulphate	mg/L	4	9.12	8.33	8.59	0.02		250	
Suspended Solids	mg/L	12	0.45	ND	0.19	0.2			
Total Hardness	mg/L	12	26.00	21.00	23.25	0.029		200	
Total Organic Carbon TOC	mg/L	12	1.50	0.60	0.92	0.1			
Turbidity	NTU	364	0.45	ND	0.15	0.05		5	

Microbiology									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limits**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Escherichia coli	cfu/100mL	364	ND	ND	ND	1	<1		√

Nutrients									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Ammonia	mg/L	4	ND	ND	ND	0.005		1.5	
Nitrate (as NO_3)	mg/L	4	0.39	0.265	0.31	0.009	50		√
Nitrite (as NO_2)	mg/L	4	ND	ND	ND	0.007	3		√
TKN (Total Kjeldahl Nitrogen)	mg/L	4	ND	ND	ND	0.1			
Total Phosphorus	mg/L	4	0.01	ND	ND	0.005			

Plasticizers									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
bis (2-ethylhexyl) adipate	µg/L	4	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	4	ND	ND	ND	2	9		√

Semi Volatile Organic Compounds									
Organochlorine Pesticides									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Aldrin + Dieldrin	µg/L	4	ND	ND	ND	0.01	0.04		√
Chlordane	µg/L	4	ND	ND	ND	0.01	0.2		√
Lindane	µg/L	4	ND	ND	ND	0.01	2		√
Heptachlor	µg/L	4	ND	ND	ND	0.01			
Heptachlor epoxide	µg/L	4	ND	ND	ND	0.01			
Hexachlorobenzene	µg/L	4	ND	ND	ND	0.1			
Methoxychlor	µg/L	4	ND	ND	ND	0.2	20		√
Permethrin (cis + trans)	µg/L	4	ND	ND	ND	0.2			
DDT + isomers	µg/L	4	ND	ND	ND	0.2	1		√
Procymidone	µg/L	4	ND	ND	ND	0.2	700		√
Organonitrogen Herbicides									
Alachlor	µg/L	4	ND	ND	ND	0.2	20		√
Atrazine	µg/L	4	ND	ND	ND	0.1	100		√
Metolachlor	µg/L	4	ND	ND	ND	0.1	10		√
Molinate	µg/L	4	ND	ND	ND	0.1	7		√
Pendimethalin	µg/L	4	ND	ND	ND	0.2	20		√
Propanil	µg/L	4	ND	ND	ND	0.1			
Simazine	µg/L	4	ND	ND	ND	0.1	2		√
Terbuthylazine	µg/L	4	ND	ND	ND	0.2	8		√
Trifluralin	µg/L	4	ND	ND	ND	0.2	30		√
Organophosphorus Pesticides									
Chlorpyriphos	µg/L	4	ND	ND	ND	0.2	40		√
Diazinon	µg/L	4	ND	ND	ND	0.1			
Pirimiphos methyl	µg/L	4	ND	ND	ND	0.2	100		√

Trace Elements									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Antimony	mg/L	4	ND	ND	ND	0.001	0.02		√
Arsenic	mg/L	4	ND	ND	ND	0.0001	0.01		√
Barium	mg/L	4	0.01	0.01	0.01	0.0002	1.5		√
Boron	mg/L	12	0.01	ND	ND	0.005	2.4		√
Cadmium	mg/L	4	ND	ND	ND	0.00005	0.004		√
Chromium	mg/L	4	ND	ND	ND	0.0001	0.05		√
Copper	mg/L	4	ND	ND	ND	0.0002	2	1	√
Lead	mg/L	12	ND	ND	ND	0.0001	0.01		√
Lithium	mg/L	4	ND	ND	ND	0.0001			
Mercury	mg/L	4	0.00008	ND	ND	0.00005	0.007		√
Molybdenum	mg/L	4	ND	ND	ND	0.0003			
Nickel	mg/L	4	ND	ND	0.00003	0.0001	0.08		√
Selenium	mg/L	4	ND	ND	ND	0.0005	0.04		√
Zinc	mg/L	4	ND	ND	ND	0.001		1.5	

Trihalomethanes									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Bromodichloromethane	mg/L	52	0.01	ND	ND	0.0001	0.06		√
Bromoform	mg/L	52	ND	ND	ND	0.0001	0.1		√
Chloroform	mg/L	52	0.01	ND	ND	0.0001	0.4		√
Dibromochloromethane	mg/L	52	0.01	ND	ND	0.0001	0.15		√
THM Sum Ratio		52	0.16	0.05	0.10		1		√

Volatile Organic Compounds									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
1,1,1-trichloroethane	mg/L	4	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	4	ND	ND	ND	0.0001		0.01	
1,2,4-trichlorobenzene	mg/L	4	ND	ND	ND	0.0001		0.005	
1,2-dichlorobenzene	mg/L	4	ND	ND	ND	0.0001	1.5	0.001	√
1,2-dichloroethane	mg/L	4	ND	ND	ND	0.0001	0.03		√
1,4-dichlorobenzene	mg/L	4	ND	ND	ND	0.0001	0.4	0.0003	√
Benzene	mg/L	4	ND	ND	ND	0.0001	0.01		√
Carbon tetrachloride	mg/L	4	ND	ND	ND	0.0001	0.005		√
Ethylbenzene	mg/L	4	ND	ND	ND	0.0001	0.3	0.002	√
Xylenes (total)	mg/L	4	ND	ND	ND	0.0001	0.6	0.02	√
Styrene	mg/L	4	ND	ND	ND	0.0001	0.03	0.004	√
Tetrachloroethene	mg/L	4	ND	ND	ND	0.0001	0.05		√
Toluene	mg/L	4	ND	ND	ND	0.0001	0.8	0.03	√
1,2-dichloroethene (cis + trans)	mg/L	4	ND	ND	ND	0.0001	0.06		√
Trichloroethene	mg/L	4	ND	ND	ND	0.0001	0.03		√

Halo Acetic Acids (HAAs)									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Bromoacetic Acid	mg/L	12	ND	ND	ND	0.0005			
Bromochloroacetic Acid	mg/L	12	ND	ND	ND	0.0005			
Dibromoacetic Acid	mg/L	12	ND	ND	0.0000917	0.0005			
Dichloroacetic Acid	mg/L	12	ND	ND	ND	0.0005	0.05		√
Trichloroacetic Acid	mg/L	12	ND	ND	ND	0.0005	0.2		√
HAA Sum Ratio		12	0.07	ND	0.05				

Ardmore WTP B1 Block Treated Water

Acid Herbicides									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
1080 (Sodium fluoroacetate)	mg/L	1	ND	ND	ND	0.0001	0.035[1]		√
2,4,5- trichlorophenoxyacetic acid (2,4,5-T)	mg/L	4	ND	ND	ND	0.0001	0.01		√
2,4-Dichlorophenoxyacetic acid (2,4-D)	mg/L	4	ND	ND	ND	0.0001	0.04		√
4-(2,4-dichlorophenoxyl) butanoic acid (2,4-DB)	mg/L	4	ND	ND	ND	0.0001	0.1		√
Bentazone	mg/L	4	ND	ND	ND	0.0001			
Dichlorprop	mg/L	4	ND	ND	ND	0.0001	0.1		√
MCPA	mg/L	4	ND	ND	ND	0.0001	0.8		√
Mecoprop	mg/L	4	ND	ND	ND	0.0001	0.01		√
Picloram	mg/L	4	ND	ND	ND	0.0001	0.2		√
Triclopyr	mg/L	4	ND	ND	ND	0.0001	0.1		√

1 – The DWSNZ2022 sets out two MAVs for 1080: for short-term effect the MAV is 0.035mg/L, for long-term effect the MAV is 0.0035mg/L.

Chemical and Physical									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
UV absorbance at 254nm	Abs units	51	0.03	ND	0.01	0.002			
Alkalinity (Total) as $CaCO_3$	mg/L	51	19.00	12.00	17.20	1			
Aluminium	mg/L	102	0.05	0.01	0.02	0.005	1	0.1	√
Bromate	mg/L	11	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	10	0.02	ND	0.01	0.005			
Calcium	mg/L	11	8.00	6.20	7.01	0.01			
Calcium Hardness	mg/L	11	20.00	15.00	17.45	0.025			
Chlorate	mg/L	11	ND	ND	ND	0.01	0.8		√

Chemical and Physical cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAV**	**Compliance DWSNZ2022**
Chloride	Mg/L	11	13.30	10.80	12.46	0.02		250	
Chlorine Residual	mg/L	359	2.00	0.67	1.36	0.02	5	0.3-1.0	√
Chlorite	mg/L	2	ND	ND	ND	0.005	0.8		√
Colour	Hazen Units	11	5.00	ND	1.36	5		15	
Conductivity	mS/m	11	10.50	8.60	9.66	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	51	0.96	0.03	0.78	0.02	1.5		√
Iodide	mg/L	4	ND	ND	ND	0.001			
Iron	mg/L	102	0.05	ND	0.01	0.002		0.3	
Magnesium	mg/L	11	1.50	1.30	1.35	0.001			
Magnesium Hardness	mg/L	11	6.10	5.30	5.56	0.0041			
Manganese	mg/L	102	0.02	ND	ND	0.0005	0.4	0.04	√
pH	pH unit	359	8.70	6.40	7.52	0.1		7.0-8.5	
Potassium	mg/L	4	1.20	1.00	1.08	0.05			
Silicon	mg/L	4	14.00	13.00	13.50	0.1			
Sodium	mg/L	4	8.40	7.50	8.05	0.1		200	
Sulphate	mg/L	4	9.11	8.38	8.62	0.02		250	
Suspended Solids	mg/L	11	0.45	ND	0.13	0.2			
Total Hardness	mg/L	11	26.00	21.00	23.00	0.029		200	
Total Organic Carbon	mg/L	11	1.00	0.70	0.90	0.1			
Turbidity	NTU	359	0.45	ND	0.15	0.05		5	

Microbiology									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
E. coli	cfu/100mL	357	ND	ND	ND	1	<1		√

Nutrients									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Ammonia	mg/L	4	ND	ND	ND	0.005		1.5	
Nitrate (as NO_3)	mg/L	4	0.39	0.26	0.31	0.009	50		√
Nitrite (as NO_2)	mg/L	4	ND	ND	ND	0.007	3		√
TKN (Total Kjeldahl Nitrogen)	mg/L	4	ND	ND	ND	0.1			
Total Phosphorus	mg/L	4	0.01	ND	ND	0.005			

Plasticizers									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
bis (2-ethylhexyl) adipate	µg/L	4	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	4	ND	ND	ND	2	9		√

Semi Volatile Organic Compounds									
Organochlorine Pesticides									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWSNZ**	**Compliance DWSNZ2022**
Aldrin + Dieldrin	µg/L	4	ND	ND	ND	0.01	0.04		√
Chlordane	µg/L	4	ND	ND	ND	0.01	0.2		√
Llindane	µg/L	4	ND	ND	ND	0.01	2		√
Heptachlor	µg/L	4	ND	ND	ND	0.01			
Heptachlor epoxide	µg/L	4	ND	ND	ND	0.01			
Hexachlorobenzene	µg/L	4	ND	ND	ND	0.1			
Methoxychlor	µg/L	4	ND	ND	ND	0.2	20		√

Organochlorine Pesticides cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWSNZ**	**Compliance DWSNZ2022**
Permethrin (cis + trans)	µg/L	4	ND	ND	ND	0.2			
DDT + isomers	µg/L	4	ND	ND	ND	0.2	1		√
Procymidone	µg/L	4	ND	ND	ND	0.2	700		√
Organonitrogen Herbicides									
Alachlor	µg/L	4	ND	ND	ND	0.2	20		√
Atrazine	µg/L	4	ND	ND	ND	0.1	100		√
Metolachlor	µg/L	4	ND	ND	ND	0.1	10		√
Molinate	µg/L	4	ND	ND	ND	0.1	7		√
Pendimethalin	µg/L	4	ND	ND	ND	0.2	20		√
Propanil	µg/L	4	ND	ND	ND	0.1			
Simazine	µg/L	4	ND	ND	ND	0.1	2		√
Terbuthylazine	µg/L	4	ND	ND	ND	0.2	8		√
Trifluralin	µg/L	4	ND	ND	ND	0.2	30		√
Organophosphorus Pesticides									
Chlorpyriphos	µg/L	4	ND	ND	ND	0.2	40		√
Diazinon	µg/L	4	ND	ND	ND	0.1			
Pirimiphos methyl	µg/L	4	ND	ND	ND	0.2	100		√

Trace Elements									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Antimony	mg/L	4	ND	ND	ND	0.001	0.02		√
Arsenic	mg/L	4	ND	ND	ND	0.0001	0.01		√
Barium	mg/L	4	0.01	0.01	0.01	0.0002	1.5		√
Boron	mg/L	11	ND	ND	0.01	0.005	2.4		√
Cadmium	mg/L	4	ND	ND	ND	0.00005	0.004		√
Chromium	mg/L	4	ND	ND	ND	0.0001	0.05		√
Copper	mg/L	4	ND	ND	ND	0.0002	2	1	√

Trace Elements cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Lead	mg/L	11	ND	ND	ND	0.0001	0.01		√
Lithium	mg/L	4	ND	ND	ND	0.0001			
Mercury	mg/L	4	ND	ND	ND	0.00005	0.007		√
Molybdenum	mg/L	4	ND	ND	ND	0.0003			
Nickel	mg/L	4	ND	ND	ND	0.0001	0.08		√
Selenium	mg/L	4	ND	ND	ND	0.0005	0.04		√
Zinc	mg/L	4	ND	ND	ND	0.001		1.5	

Trihalomethanes									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Bromodichloromethane	mg/L	51	0.01	ND	ND	0.0001	0.06		√
Bromoform	mg/L	51	ND	ND	ND	0.0001	0.1		√
Chloroform	mg/L	51	0.01	ND	ND	0.0001	0.4		√
Dibromochloromethane	mg/L	51	ND	ND	ND	0.0001	0.15		√
THM Sum Ratio		51	0.15	0.05	0.09		1		√

Volatile Organic Compounds									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
1,1,1-trichloroethane	mg/L	4	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	4	ND	ND	ND	0.0001		0.01	
1,2,4-trichlorobenzene	mg/L	4	ND	ND	ND	0.0001		0.005	
1,2-dichlorobenzene	mg/L	4	ND	ND	ND	0.0001	1.5	0.001	√
1,2-dichloroethane	mg/L	4	ND	ND	ND	0.0001	0.03		√
1,4-dichlorobenzene	mg/L	4	ND	ND	ND	0.0001	0.4	0.0003	√
Benzene	mg/L	4	ND	ND	ND	0.0001	0.01		√
Carbon tetrachloride	mg/L	4	ND	ND	ND	0.0001	0.005		√

Volatile Organic Compounds cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Ethylbenzene	mg/L	4	ND	ND	ND	0.0001	0.3	0.002	√
Xylenes (total)	mg/L	4	ND	ND	ND	0.0001	0.6	0.02	√
Styrene	mg/L	4	ND	ND	ND	0.0001	0.03	0.004	√
Tetrachloroethene	mg/L	4	ND	ND	ND	0.0001	0.05		√
Toluene	mg/L	4	ND	ND	ND	0.0001	0.8	0.03	√
1,2-dichloroethene (cis + trans)	mg/L	4	ND	ND	ND	0.0001	0.06		√
Trichloroethene	mg/L	4	ND	ND	ND	0.0001	0.03		√

Halo Acetic Acids (HAAs)									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Bromoacetic Acid	mg/L	11	ND	ND	ND	0.0005			
Bromochloroacetic Acid	mg/L	11	ND	ND	ND	0.0005			
Dibromoacetic Acid	mg/L	11	ND	ND	ND	0.0005			
Dichloroacetic Acid	mg/L	11	ND	ND	ND	0.0005	0.05		√
Trichloroacetic Acid	mg/L	11	ND	ND	ND	0.0005	0.2		√
HAA Sum Ratio		11	0.16	ND	0.05				

Bombay WTP Treated Water

Acid Herbicides

Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
2,4,5- trichlorophenoxyacetic acid (2,4,5-T)	mg/L	11	ND	ND	ND	0.0001	0.01		√
2,4-Dichlorophenoxyacetic acid (2,4-D)	mg/L	11	ND	ND	ND	0.0001	0.04		√
4-(2,4-dichlorophenoxyl) butanoic acid (2,4-DB)	mg/L	11	ND	ND	ND	0.0001	0.1		√
Bentazone	mg/L	11	ND	ND	ND	0.0001			
Dichlorprop	mg/L	11	ND	ND	ND	0.0001	0.1		√
MCPA	mg/L	11	ND	ND	ND	0.0001	0.002		√
Mecoprop	mg/L	11	ND	ND	ND	0.0001	0.01		√
Picloram	mg/L	11	ND	ND	ND	0.0001	0.2		√
Triclopyr	mg/L	11	ND	ND	ND	0.0001	0.1		√

Chemical and Physical

Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
UV absorbance at 254nm	Abs units	11	ND	ND	ND	0.002			
Alkalinity (Total) as $CaCO_3$	mg/L	3	83.00	71.00	76.67	1			
Aluminium	mg/L	6	ND	ND	ND	0.005	1	0.1	√
Bromate	mg/L	11	ND	ND	ND	0.01	0.01		√
Bromide	mg/L	4	0.03	ND	0.01	0.005			
Calcium	mg/L	3	14.00	14.00	14.00	0.01			
Calcium Hardness	mg/L	3	36.00	35.00	35.67	0.025			
Chlorate	mg/L	11	ND	ND	ND	0.01	0.8		√
Chloride	mg/L	3	91.30	79.70	86.70	0.02		250	
Chlorine Residual	mg/L	104	1.34	0.36	0.93	0.02	5	0.3-1.0	√
Chlorite	mg/L	1	ND	ND	ND	0.005	0.8		√

Chemical and Physical cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Fluoride	mg/L	3	0.03	ND	0.02	0.02	1.5		√
Iron	mg/L	6	ND	ND	ND	0.002		0.3	
Magnesium	mg/L	3	14.00	14.00	14.00	0.001			
Magnesium Hardness	mg/L	3	60.00	56.00	57.33	0.0041			
Manganese	mg/L	6	ND	ND	ND	0.0005	0.4	0.04	√
pH	pH Units	104	8.20	6.80	7.68	0.1		7.0-8.5	
Total Hardness	mg/L	3	96.00	91.00	93.00	0.029		200	
Total Organic Carbon TOC	mg/L	11	1.30	ND	0.47	0.1			
Turbidity	NTU	104	0.30	ND	0.05	0.05		5	

Microbiology									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
E. coli	cfu/100mL	104	ND	ND	ND	1	<1		√

Nutrients									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Ammonia	mg/L	3	0.01	ND	ND	0.005		1.5	
Nitrate (as NO_3)	mg/L	51	8.4	3.2	4.9	0.009	50		√
Nitrite (as NO_2)	mg/L	3	ND	ND	ND	0.007	3		√

Plasticizers									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
bis (2-ethylhexyl) adipate	µg/L	3	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	3	ND	ND	ND	2	9		√

Semi Volatile Organic Compounds Organochlorine Pesticides									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Aldrin + Dieldrin	µg/L	3	ND	ND	ND	0.01	0.04		√
Chlordane	µg/L	3	ND	ND	ND	0.01	0.2		√
Lindane	µg/L	3	ND	ND	ND	0.01	2		√
Heptachlor	µg/L	3	ND	ND	ND	0.01			
Heptachlor epoxide	µg/L	11	ND	ND	ND	0.01			
Hexachlorobenzene	µg/L	3	ND	ND	ND	0.1			
Methoxychlor	µg/L	13	ND	ND	ND	0.2	20		√
Permethrin (cis + trans)	µg/L	3	ND	ND	ND	0.2			
DDT + isomers	µg/L	3	ND	ND	ND	0.2	1		√
Procymidone	µg/L	3	ND	ND	ND	0.2	700		√
Organonitrogen Herbicides									
Alachlor	µg/L	14	ND	ND	ND	0.2	20		√
Atrazine	µg/L	14	ND	ND	ND	0.1	100		√
Metolachlor	µg/L	14	ND	ND	ND	0.1	10		√
Molinate	µg/L	14	ND	ND	ND	0.1	7		√
Pendimethalin	µg/L	11	ND	ND	ND	0.2	20		√
Propanil	µg/L	14	ND	ND	ND	0.1			
Simazine	µg/L	14	ND	ND	ND	0.1	2		√
Terbuthylazine	µg/L	25	ND	ND	ND	0.2	8		√
Trifluralin	µg/L	3	ND	ND	ND	0.2	30		√
Organophosphorus Pesticides									
Chlorpyriphos	µg/L	14	ND	ND	ND	0.2	40		√
Diazinon	µg/L	14	ND	ND	ND	0.1			
Pirimiphos methyl	µg/L	3	ND	ND	ND	0.2	100		√

Trace Elements

Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Cadmium	mg/L	3	ND	ND	ND	0.00005	0.004		√
Chromium	mg/L	3	ND	ND	ND		0.05		√
Copper	mg/L	3	0.01	0.01	0.01		2	1	√

Trihalomethanes

Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Bromodichloromethane	mg/L	11	ND	ND	ND		0.06		√
Bromoform	mg/L	11	ND	ND	ND		0.1		√
Chloroform	mg/L	11	ND	ND	ND		0.4		√
Dibromochloromethane	mg/L	11	ND	ND	0.0000691		0.15		√
THM Sum Ratio		11	0.02	ND	ND		1		√

Volatile Organic Compounds

Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
1,1,1-trichloroethane	mg/L	3	ND	ND	ND				
1,2,3-trichlorobenzene	mg/L	3	ND	ND	ND			0.01	
1,2,4-trichlorobenzene	mg/L	3	ND	ND	ND			0.005	
1,2-dichlorobenzene	mg/L	3	ND	ND	ND		1.5	0.001	√
1,2-dichloroethane	mg/L	3	ND	ND	ND		0.03		√
1,4-dichlorobenzene	mg/L	3	ND	ND	ND	0.0001	0.4	0.0003	√
Benzene	mg/L	3	ND	ND	ND	0.0001	0.01		√
Carbon tetrachloride	mg/L	3	ND	ND	ND	0.0001	0.005		√
Ethylbenzene	mg/L	3	ND	ND	ND	0.0001	0.3	0.002	√
Xylenes (total)	mg/L	3	ND	ND	ND	0.0001	0.6	0.02	√

Volatile Organic Compounds cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Styrene	mg/L	3	ND	ND	ND	0.0001	0.03	0.004	√
Tetrachloroethene	mg/L	3	ND	ND	ND	0.0001	0.05		√
Toluene	mg/L	3	ND	ND	ND	0.0001	0.8	0.03	√
Trichloroethene	mg/L	3	ND	ND	ND	0.0001	0.03		√

Halo Acetic Acids (HAAs)									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Bromoacetic Acid	mg/L	3	ND	ND	ND	0.0005			
Bromochloroacetic Acid	mg/L	3	ND	ND	ND	0.0005			
Dibromoacetic Acid	mg/L	3	ND	ND	ND	0.0005			
Dichloroacetic Acid	mg/L	3	ND	ND	ND	0.0005	0.05		√
Trichloroacetic Acid	mg/L	3	ND	ND	ND	0.0005	0.2		√
HAA Sum Ratio		3	ND	ND	ND				

Cornwall Road WTP Treated Water

Chemical and Physical									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
UV absorbance at 254nm	Abs units	1	0.01	0.01	0.01	0.002			
Alkalinity (Total) as $CaCO_3$	mg/L	4	140.00	130.00	132.50	1			
Aluminium	mg/L	2	ND	ND	ND	0.005	1	0.1	√
Bromate	mg/L	12	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	2	0.10	0.08	0.09	0.005			
Calcium	mg/L	12	34.00	30.00	33.00	0.010			
Calcium Hardness	mg/L	12	85.00	76.00	82.17	0.025			
Chlorate	mg/L	10	0.05	ND	0.01	0.010	0.8		√
Chloride	mg/L	1	32.20	32.20	32.20	0.020		250	
Chlorine Residual	mg/L	104	1.35	0.55	0.97	0.020	5	0.3-1.0	√
Chlorite	mg/L	2	ND	ND	ND	0.005	0.8		√
Colour	Hazen Units	1	ND	ND	ND	5		15	
Conductivity	mS/m	1	35.30	35.30	35.30	0.500			
Cyanide	mg/L	1	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	1	0.05	0.05	0.05	0.020	1.5		√
Iodide	mg/L	1	ND	ND	ND	0.001			
Iron	mg/L	24	ND	ND	ND	0.002		0.3	
Magnesium	mg/L	12	11.00	8.80	9.93	0.001			
Magnesium Hardness	mg/L	12	44.00	36.00	40.83	0.004			
Manganese	mg/L	24	ND	ND	ND	0.0005	0.4	0.04	√
pH	pH Units	104	8.20	7.80	7.98	0.100		7.0-8.5	
Potassium	mg/L	1	3.20	3.20	3.20	0.05			
Silicon	mg/L	1	55.00	55.00	55.00	0.100			
Sodium	mg/L	1	21.00	21.00	21.00	0.100		200	
Sulphate	mg/L	1	5.21	5.21	5.21	0.020		250	

Chemical and Physical cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Suspended Solids	Mg/L	1	ND	ND	ND				
Total Dissolved Solids	mg/L	1	230.00	230.00	230.00	15.000		1000	
Total Hardness	mg/L	12	130.00	110.00	122.50	0.029		200	
Turbidity	NTU	104	0.20	ND	0.02	0.05		5	

Microbiology									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
E. coli	cfu/100mL	104	ND	ND	ND	1	<1		√

Nutrients									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Ammonia	mg/L	1	ND	ND	ND	0.005		1.5	
Nitrate (as NO_3)	mg/L	1	0.26	0.26	0.26	0.009	50		√
Nitrite (as NO_2)	mg/L	1	ND	ND	ND	0.007	3		√
TKN (Total Kjeldahl Nitrogen)	mg/L	1	ND	ND	ND	0.1			
Total Phosphorus	mg/L	2	0.05	0.05	0.05	0.005			

Plasticizers									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
bis (2-ethylhexyl) adipate	µg/L	1	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	1	ND	ND	ND	2	9		√

Semi Volatile Organic Compounds Organochlorine Pesticides									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Aldrin + Dieldrin	µg/L	1	ND	ND	ND	0.01	0.04		√
Chlordane	µg/L	1	ND	ND	ND	0.01	0.2		√
Lindane	µg/L	1	ND	ND	ND	0.01	2		√
Heptachlor	µg/L	1	ND	ND	ND	0.01			
Heptachlor epoxide	µg/L	1	ND	ND	ND	0.01			
Hexachlorobenzene	µg/L	1	ND	ND	ND	0.1			
Methoxychlor	µg/L	1	ND	ND	ND	0.2	20		√
Permethrin (cis + trans)	µg/L	1	ND	ND	ND	0.2			
pp-DDT	µg/L	1	ND	ND	ND	0.2	1		√
Procymidone	µg/L	1	ND	ND	ND	0.2	700		√
Organonitrogen Herbicides									
Alachlor	µg/L	1	ND	ND	ND	0.2	20		√
Atrazine	µg/L	1	ND	ND	ND	0.1	100		√
Metolachlor	µg/L	1	ND	ND	ND	0.1	10		√
Molinate	µg/L	1	ND	ND	ND	0.1	7		√
Pendimethalin	µg/L	1	ND	ND	ND	0.2	20		√
Propanil	µg/L	1	ND	ND	ND	0.1			
Simazine	µg/L	1	ND	ND	ND	0.1	2		√
Terbuthylazine	µg/L	1	ND	ND	ND	0.2	8		√
Trifluralin	µg/L	1	ND	ND	ND	0.2	30		√
Organophosphorus pesticides									
Chlorpyriphos	µg/L	1	ND	ND	ND	0.2	40		√
Diazinon	µg/L	1	ND	ND	ND	0.1			
Pirimiphos methyl	µg/L	1	ND	ND	ND	0.2	100		√

Trace Elements

Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Antimony	mg/L	1	ND	ND	ND	0.001	0.02		√
Arsenic	mg/L	12	ND	ND	ND	0.0001	0.01		√
Barium	mg/L	1	ND	ND	ND	0.0002	1.5		√
Boron	mg/L	1	0.01	0.01	0.01	0.005	2.4		√
Cadmium	mg/L	1	ND	ND	ND	0.00005	0.004		√
Chromium	mg/L	1	ND	ND	ND	0.0001	0.05		√
Copper	mg/L	1	ND	ND	ND	0.0002	2	1	√
Lead	mg/L	1	ND	ND	ND	0.0001	0.01		√
Lithium	mg/L	1	0.01	0.01	0.01	0.0001			
Mercury	mg/L	1	ND	ND	ND	0.00005	0.007		√
Molybdenum	mg/L	1	ND	ND	ND	0.0003			
Nickel	mg/L	1	ND	ND	ND	0.0001	0.08		√
Selenium	mg/L	1	ND	ND	ND	0.0005	0.04		√
Zinc	mg/L	1	ND	ND	ND	0.001		1.5	

Trihalomethanes

Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Bromodichloromethane	mg/L	12	ND	ND	ND	0.0001	0.06		√
Bromoform	mg/L	12	ND	ND	ND	0.0001	0.1		√
Chloroform	mg/L	12	ND	ND	ND	0.0001	0.4		√
Dibromochloromethane	mg/L	12	ND	ND	ND	0.0001	0.15		√
THM Sum Ratio		12	0.02	ND	ND		1		√

Volatile Organic Compounds									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
1,1,1-trichloroethane	mg/L	1	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	1	ND	ND	ND	0.0001		0.01	
1,2,4-trichlorobenzene	mg/L	1	ND	ND	ND	0.0001		0.005	
1,2-dichlorobenzene	mg/L	1	ND	ND	ND	0.0001	1.5	0.001	√
1,2-dichloroethane	mg/L	1	ND	ND	ND	0.0001	0.03		√
1,4-dichlorobenzene	mg/L	1	ND	ND	ND	0.0001	0.4	0.0003	√
Benzene	mg/L	1	ND	ND	ND	0.0001	0.01		√
Carbon tetrachloride	mg/L	1	ND	ND	ND	0.0001	0.005		√
Ethylbenzene	mg/L	1	ND	ND	ND	0.0001	0.3	0.002	√
m- & p-Xylene	mg/L	1	ND	ND	ND	0.0001	0.6		√
Styrene	mg/L	1	ND	ND	ND	0.0001	0.03	0.004	√
Tetrachloroethene	mg/L	1	ND	ND	ND	0.0001	0.05		√
Toluene	mg/L	1	ND	ND	ND	0.0001	0.8	0.03	√
1,2-dichloroethene (cis + trans)	mg/L	1	ND	ND	ND	0.0001	0.06		√
Trichloroethene	mg/L	1	ND	ND	ND	0.0001	0.03		√

11 Cornwall Road WTP Treated Water

Chemical and Physical									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
UV absorbance at 254nm	Abs units	12	ND	ND	ND	0.002			
UV absorbance at 254nm	Abs units	91	0.01	ND	ND	0.005			
Total Organic Carbon TOC	mg/L	12	2.10	ND	0.52	0.10			

Microbiology									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
E. coli	cfu/100mL	103	ND	ND	ND	1	<1		√

Nutrients									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Ammonia	mg/L	1	ND	ND	ND	0.005		1.5	
Nitrate (as NO_3)	mg/L	1	0.08	0.08	0.08	0.009	50		√
Nitrite (as NO_2)	mg/L	1	ND	ND	ND	0.007	3		√
TKN (Total Kjeldahl Nitrogen)	mg/L	1	ND	ND	ND	0.1			
Total Phosphorus	mg/L	1	0.04	0.04	0.04	0.005			

Plasticizers									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
bis (2-ethylhexyl) adipate	µg/L	1	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	1	ND	ND	ND	2	9		√

Semi Volatile Organic Compounds									
Organochlorine Pesticides									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Aldrin + Dieldrin	µg/L	1	ND	ND	ND	0.01	0.04		√
Chlordane	µg/L	1	ND	ND	ND	0.01	0.2		√
Lindane	µg/L	1	ND	ND	ND	0.01	2		√
Heptachlor	µg/L	1	ND	ND	ND	0.01			
Heptachlor epoxide	µg/L	1	ND	ND	ND	0.01			
Hexachlorobenzene	µg/L	1	ND	ND	ND	0.1			
Methoxychlor	µg/L	1	ND	ND	ND	0.2	20		√
Permethrin (cis + trans)	µg/L	1	ND	ND	ND	0.2			
pp-DDT	µg/L	1	ND	ND	ND	0.2	1		√
Procymidone	µg/L	1	ND	ND	ND	0.2	700		√
Organonitrogen Herbicides									
Alachlor	µg/L	1	ND	ND	ND	0.2	20		√
Atrazine	µg/L	1	ND	ND	ND	0.1	100		√
Metolachlor	µg/L	1	ND	ND	ND	0.1	10		√
Molinate	µg/L	1	ND	ND	ND	0.1	7		√
Pendimethalin	µg/L	1	ND	ND	ND	0.2	20		√
Propanil	µg/L	1	ND	ND	ND	0.1			
Simazine	µg/L	1	ND	ND	ND	0.1	2		√
Terbuthylazine	µg/L	1	ND	ND	ND	0.2	8		√
Trifluralin	µg/L	1	ND	ND	ND	0.2	30		√

Semi Volatile Organic Compounds cont.

Organophosphorus pesticides

Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Chlorpyriphos	µg/L	1	ND	ND	ND	0.2	40		√
Diazinon	µg/L	1	ND	ND	ND	0.1			
Pirimiphos methyl	µg/L	1	ND	ND	ND	0.2	100		√

Trace Elements

Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Antimony	mg/L	1	ND	ND	ND	0.001	0.02		√
Arsenic	mg/L	12	ND	ND	ND	0.0001	0.01		√
Barium	mg/L	1	ND	ND	ND	0.0002	1.5		√
Boron	mg/L	1	0.02	0.02	0.02	0.005	2.4		√
Cadmium	mg/L	1	ND	ND	ND	0.00005	0.004		√
Chromium	mg/L	1	ND	ND	ND	0.0001	0.05		√
Copper	mg/L	1	ND	ND	ND	0.0002	2	1	√
Lead	mg/L	1	ND	ND	ND	0.0001	0.01		√
Lithium	mg/L	1	0.01	0.01	0.01	0.0001			
Mercury	mg/L	1	ND	ND	ND	0.00005	0.007		√
Molybdenum	mg/L	1	ND	ND	ND	0.0003			
Nickel	mg/L	1	ND	ND	ND	0.0001	0.08		√
Selenium	mg/L	1	ND	ND	ND	0.0005	0.04		√
Zinc	mg/L	1	ND	ND	ND	0.001		1.5	

Trihalomethanes

Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Bromodichloromethane	mg/L	12	ND	ND	ND	0.0001	0.06		√
Bromoform	mg/L	12	ND	ND	ND	0.0001	0.1		√

Trihalomethanes cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Chloroform	mg/L	12	ND	ND	ND	0.0001	0.4		√
Dibromochloromethane	mg/L	12	ND	ND	ND	0.0001	0.15		√
THM Sum Ratio		12	0.01	ND	ND		1		√

Volatile Organic Compounds									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
1,1,1-trichloroethane	mg/L	1	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	1	ND	ND	ND	0.0001		0.01	
1,2,4-trichlorobenzene	mg/L	1	ND	ND	ND	0.0001		0.005	
1,2-dichlorobenzene	mg/L	1	ND	ND	ND	0.0001	1.5	0.001	√
1,2-dichloroethane	mg/L	1	ND	ND	ND	0.0001	0.03		√
1,4-dichlorobenzene	mg/L	1	ND	ND	ND	0.0001	0.4	0.0003	√
Benzene	mg/L	1	ND	ND	ND	0.0001	0.01		√
Carbon tetrachloride	mg/L	1	ND	ND	ND	0.0001	0.005		√
Ethylbenzene	mg/L	1	ND	ND	ND	0.0001	0.3	0.002	√
m- & p-Xylene	mg/L	1	ND	ND	ND	0.0001	0.6		√
Styrene	mg/L	1	ND	ND	ND	0.0001	0.03	0.004	√
Tetrachloroethene	mg/L	1	ND	ND	ND	0.0001	0.05		√
Toluene	mg/L	1	ND	ND	ND	0.0001	0.8	0.03	√
1,2-dichloroethene (cis + trans)	mg/L	1	ND	ND	ND	0.0001	0.06		√
Trichloroethene	mg/L	1	ND	ND	ND	0.0001	0.03		√

Helensville WTP Treated Water

Acid Herbicides									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
2,4,5- trichlorophenoxyacetic acid (2,4,5-T)	mg/L	12	ND	ND	ND	0.0001	0.01		√
2,4-Dichlorophenoxyacetic acid (2,4-D)	mg/L	12	ND	ND	ND	0.0001	0.04		√
4-(2,4-dichlorophenoxyl) butanoic acid (2,4-DB)	mg/L	12	ND	ND	ND	0.0001	0.1		√
Bentazone	mg/L	12	ND	ND	ND	0.0001			
Dichlorprop	mg/L	12	ND	ND	ND	0.0001	0.1		√
MCPA	mg/L	12	ND	ND	ND	0.0001	0.8		√
Mecoprop	mg/L	12	ND	ND	ND	0.0001	0.01		√
Picloram	mg/L	12	ND	ND	ND	0.0001	0.2		√
Triclopyr	mg/L	12	ND	ND	ND	0.0001	0.1		√

Chemical and Physical									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
UV absorbance at 254nm	Abs units	6	0.02	0.01	0.02	0.002			
Alkalinity (Total) as $CaCO_3$	mg/L	52	80.00	32.00	55.67	1			
Aluminium	mg/L	104	0.02	0.01	0.01	0.005	1	0.1	√
Bromate	mg/L	4	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	4	0.07	0.01	0.03	0.005			
Calcium	mg/L	12	16.00	8.90	12.11	0.01			
Calcium Hardness	mg/L	12	40.00	22.00	30.58	0.025			
Chlorate	mg/L	4	ND	ND	ND	0.01	0.8		√
Chloride	mg/L	4	51.80	44.20	47.95	0.02		250	
Chlorine Residual	mg/L	109	2.40	0.67	1.42	0.02	5	0.3-1.0	√

Chemical and Physical cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Chlorite	mg/L	1	ND	ND	ND	0.005	0.8		√
Colour	Hazen Units	12	5.00	ND	0.83	5		15	
Conductivity	mS/m	12	41.70	30.40	35.73	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	12	0.04	ND	0.03	0.02	1.5		√
Iodide	mg/L	4	ND	ND	ND	0.001			
Iron	mg/L	104	0.13	ND	ND	0.002		0.3	
Magnesium	mg/L	12	14.00	7.80	10.44	0.001			
Magnesium Hardness	mg/L	12	56.00	32.00	42.92	0.0041			
Manganese	mg/L	104	0.03	ND	ND	0.0005	0.4	0.04	√
pH	pH Units	105	8.10	6.90	7.36	0.1		7.0-8.5	
Potassium	mg/L	4	3.90	2.70	3.05	0.05			
Silicon	mg/L	4	23.00	20.00	21.50	0.1			
Sodium	mg/L	4	45.00	34.00	39.75	0.1		200	
Sulphate	mg/L	4	54.80	38.60	46.07	0.02		250	
Suspended Solids	mg/L	12	0.50	ND	0.06	0.2			
Total Dissolved Solids	mg/L	12	260.00	150.00	221.67	15		1000	
Total Hardness	mg/L	12	96.00	55.00	73.42	0.029		200	
Total Organic Carbon TOC	mg/L	52	1.90	1.00	1.60	0.1			
Turbidity	NTU	105	1.00	ND	0.10	0.05		5	

Microbiology									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
E. coli	cfu/100mL	105	ND	ND	ND	1	<1		√

Nutrients									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Ammonia	mg/L	4	ND	ND	0.01	0.005		1.5	
Nitrate (as NO_3)	mg/L	12	0.75	0.17	0.44	0.009	50		√
Nitrite (as NO_2)	mg/L	12	ND	ND	ND	0.007	3		√
TKN (Total Kjeldahl Nitrogen)	mg/L	4	ND	ND	0.03	0.1			
Total Phosphorus	mg/L	12	ND	ND	ND	0.005			

Plasticizers									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
bis (2-ethylhexyl) adipate	µg/L	12	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	12	ND	ND	ND	2	9		√

Semi Volatile Organic Compounds Organochlorine Pesticides									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Aldrin + Dieldrin	µg/L	12	ND	ND	ND	0.01	0.04		√
Chlordane	µg/L	12	ND	ND	ND	0.01	0.2		√
Lindane	µg/L	12	ND	ND	ND	0.01	2		√
Heptachlor	µg/L	12	ND	ND	ND	0.01			
Heptachlor epoxide	µg/L	12	ND	ND	ND	0.01			
Hexachlorobenzene	µg/L	12	ND	ND	ND	0.1			
Methoxychlor	µg/L	12	ND	ND	ND	0.2	20		√
Permethrin (cis + trans)	µg/L	12	ND	ND	ND	0.2			
DDT + isomers	µg/L	12	ND	ND	ND	0.2	1		√
Procymidone	µg/L	12	ND	ND	ND	0.2	700		√

Organonitrogen Herbicides									
Alachlor	µg/L	12	ND	ND	ND	0.2	20		√
Atrazine	µg/L	24	ND	ND	ND	0.1	100		√
Metolachlor	µg/L	24	ND	ND	ND	0.1	10		√
Molinate	µg/L	24	ND	ND	ND	0.1	7		√
Pendimethalin	µg/L	12	ND	ND	ND	0.2	20		√
Propanil	µg/L	24	ND	ND	ND	0.1			
Simazine	µg/L	24	ND	ND	ND	0.1	2		√
Terbuthylazine	µg/L	24	ND	ND	ND	0.2	8		√
Trifluralin	µg/L	12	ND	ND	ND	0.2	30		√
Organophosphorus Pesticides									
Chlorpyriphos	µg/L	12	ND	ND	ND	0.2	40		√
Diazinon	µg/L	24	ND	ND	ND	0.1			
Pirimiphos methyl	µg/L	12	ND	ND	ND	0.2	100		√

Trace Elements									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Antimony	mg/L	4	ND	ND	ND	0.001	0.02		√
Arsenic	mg/L	12	ND	ND	ND	0.0001	0.01		√
Barium	mg/L	4	0.02	0.02	0.02	0.0002	1.5		√
Boron	mg/L	4	0.02	0.01	0.02	0.005	2.4		√
Cadmium	mg/L	4	ND	ND	ND	0.0000458	0.004		√
Chromium	mg/L	12	ND	ND	ND	0.0001	0.05		√
Copper	mg/L	12	ND	ND	ND	0.0002	2	1	√
Lead	mg/L	12	ND	ND	ND	0.0001	0.01		√
Lithium	mg/L	4	ND	ND	ND	0.0001			
Mercury	mg/L	12	ND	ND	ND	0.00005	0.007		√
Molybdenum	mg/L	4	ND	ND	ND	0.0003			
Nickel	mg/L	12	ND	ND	ND	0.0001	0.08		√

Trace Elements cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Selenium	mg/L	4	ND	ND	ND	0.0005	0.04		√
Zinc	mg/L	4	ND	ND	ND	0.001		1.5	

Trihalomethanes									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Bromodichloromethane	mg/L	57	0.01	ND	ND	0.0001	0.06		√
Bromoform	mg/L	57	0.02	ND	ND	0.0001	0.1		√
Chloroform	mg/L	57	ND	ND	ND	0.0001	0.4		√
Dibromochloromethane	mg/L	57	0.02	ND	0.01	0.0001	0.15		√
THM Sum Ratio		57	0.40	0.04	0.15		1		√

Volatile Organic Compounds									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
1,1,1-trichloroethane	mg/L	12	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	12	ND	ND	ND	0.0001		0.01	
1,2,4-trichlorobenzene	mg/L	12	ND	ND	ND	0.0001		0.005	
1,2-dichlorobenzene	mg/L	12	ND	ND	ND	0.0001	1.5	0.001	√
1,2-dichloroethane	mg/L	12	ND	ND	ND	0.0001	0.03		√
1,4-dichlorobenzene	mg/L	12	ND	ND	ND	0.0001	0.4	0.0003	√
Benzene	mg/L	12	ND	ND	ND	0.0001	0.01		√
Carbon tetrachloride	mg/L	12	ND	ND	ND	0.0001	0.005		√
Ethylbenzene	mg/L	12	ND	ND	ND	0.0001	0.3	0.002	√
Xylenes (total)	mg/L	12	ND	ND	ND	0.0001	0.6	0.02	√
Styrene	mg/L	12	ND	ND	ND	0.0001	0.03	0.004	√

Volatile Organic Compounds cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Tetrachloroethene	mg/L	12	ND	ND	ND	0.0001	0.05		√
Toluene	mg/L	12	ND	ND	ND	0.0001	0.8	0.03	√
1,2-dichloroethene (cis + trans)	mg/L	12	ND	ND	ND	0.0001	0.06		√
Trichloroethene	mg/L	12	ND	ND	ND	0.0001	0.03		√

Halo Acetic Acids (HAAs)									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit***	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Bromoacetic Acid	mg/L	4	ND	ND	ND	0.001			
Bromochloroacetic Acid	mg/L	4	ND	ND	ND	0.001			
Dibromoacetic Acid	mg/L	4	ND	ND	ND	0.001			
Dichloroacetic Acid	mg/L	4	ND	ND	ND	0.001	0.05		√
Trichloroacetic Acid	mg/L	4	ND	ND	ND	0.001	0.2		√
HAA Sum Ratio		4	0.03	ND	ND				

Huia Village WTP Treated Water

Acid Herbicides									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
2,4,5- trichlorophenoxyacetic acid (2,4,5-T)	mg/L	4	ND	ND	ND	0.0001	0.01		√
2,4-Dichlorophenoxyacetic acid (2,4-D)	mg/L	4	ND	ND	ND	0.0001	0.04		√
4-(2,4-dichlorophenoxyl) butanoic acid (2,4-DB)	mg/L	4	ND	ND	ND	0.0001	0.1		√
Bentazone	mg/L	4	ND	ND	ND	0.0001			
Dichlorprop	mg/L	4	ND	ND	ND	0.0001	0.1		√
MCPA	mg/L	4	ND	ND	ND	0.0001	0.8		√
Mecoprop (MCPP)	mg/L	4	ND	ND	ND	0.0001	0.01		√
Picloram	mg/L	4	ND	ND	ND	0.0001	0.2		√
Triclopyr	mg/L	4	ND	ND	ND	0.0001	0.1		√

Chemical and Physical									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
UV absorbance at 254nm	Abs units	52	0.02	0.01	0.01	0.002			
Alkalinity (Total) as $CaCO_3$	mg/L	52	35.00	17.00	21.08	1			
Aluminium	mg/L	104	0.01	ND	ND	0.005	1	0.1	√
Bromate	mg/L	52	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	13	0.07	ND	0.03	0.005			
Calcium	mg/L	4	4.90	4.00	4.42	0.01			
Calcium Hardness	mg/L	4	12.00	10.00	11.25	0.025			
Chlorate	mg/L	43	0.13	ND	0.06	0.01	0.8		√
Chloride	mg/L	4	30.20	27.30	28.80	0.02		250	
Chlorine Residual	mg/L	105	1.59	0.79	1.27	0.02	5	0.3-1.0	√

Chemical and Physical cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Chlorite	mg/L	9	ND	ND	ND	0.005	0.8		√
Colour	Hazen Units	11	5.00	ND	0.91	5		15	
Conductivity	mS/m	11	15.00	12.60	14.17	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	11	0.03	ND	ND	0.02	1.5		√
Iodide	mg/L	4	ND	ND	ND	0.001			
Iron	mg/L	22	0.01	ND	ND	0.001		0.3	
Magnesium	mg/L	4	2.90	2.60	2.75	0.001			
Magnesium Hardness	mg/L	4	12.00	11.00	11.50	0.0041			
Manganese	mg/L	22	ND	ND	ND	0.0005	0.4	0.04	√
pH	pH Units	105	8.00	6.20	7.52	0.1		7.0-8.5	
Potassium	mg/L	4	0.95	0.82	0.91	0.05			
Silicon	mg/L	4	15.00	12.00	13.75	0.1			
Sodium	mg/L	4	19.00	18.00	18.25	0.1		200	
Sulphate	mg/L	4	5.41	4.40	4.85	0.02		250	
Suspended Solids	mg/L	11	0.70	ND	0.06	0.2			
Total Dissolved Solids	mg/L	11	110.00	62.00	80.27	15.0			
Total Hardness	mg/L	4	24.00	21.00	22.25	0.1		200	
Total Organic Carbon TOC	mg/L	52	4.10	0.70	1.12	0.1			
Turbidity	NTU	105	0.20	ND	0.04	0.05		5	

Microbiology									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
E. coli	cfu/100mL	105	ND	ND	ND	1	<1		√

Nutrients									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Ammonia	mg/L	4	ND	ND	ND	0.005		1.5	
Nitrate (as NO_3)	mg/L	11	0.79	0.04	0.26	0.009	50		√
Nitrite (as NO_2)	mg/L	11	ND	ND	ND	0.007	3		√
TKN (Total Kjeldahl Nitrogen)	mg/L	4	ND	ND	ND	0.1			
Total Phosphorus	mg/L	4	ND	ND	ND	0.005			

Plasticizers									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
bis (2-ethylhexyl) adipate	µg/L	10	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	10	ND	ND	ND	2	9		√

Semi Volatile Organic Compounds Organochlorine Pesticides									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Aldrin + Dieldrin	µg/L	10	ND	ND	ND	0.01	0.04		√
Chlordane	µg/L	10	ND	ND	ND	0.01	0.2		√
Heptachlor	µg/L	10	ND	ND	ND	0.01			
Heptachlor epoxide	µg/L	10	ND	ND	ND	0.01			
Hexachlorobenzene	µg/L	10	ND	ND	ND	0.1			
Methoxychlor	µg/L	10	ND	ND	ND	0.2	20		√
Permethrin (cis + trans)	µg/L	10	ND	ND	ND	0.2			
DDT + isomers	µg/L	10	ND	ND	ND	0.2	1		√
Procymidone	µg/L	10	ND	ND	ND	0.2	700		√

Organonitrogen Herbicides									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Alachlor	µg/L	10	ND	ND	ND	0.2	20		√
Atrazine	µg/L	10	ND	ND	ND	0.1	100		√
Metolachlor	µg/L	10	ND	ND	ND	0.1	10		√
Molinate	µg/L	10	ND	ND	ND	0.1	7		√
Pendimethalin	µg/L	10	ND	ND	ND	0.2	20		√
Propanil	µg/L	10	ND	ND	ND	0.1			
Simazine	µg/L	10	ND	ND	ND	0.1	2		√
Terbuthylazine	µg/L	10	ND	ND	ND	0.2	8		√
Trifluralin	µg/L	10	ND	ND	ND	0.2	30		√
Organophosphorus Pesticides									
Chlorpyriphos	µg/L	10	ND	ND	ND	0.2	40		√
Diazinon	µg/L	10	ND	ND	ND	0.1			
Pirimiphos methyl	µg/L	10	ND	ND	ND	0.2	100		√

Trace Elements									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Antimony	mg/L	4	ND	ND	ND	0.001	0.02		√
Arsenic	mg/L	4	0.00	0.00	0.00	0.0001	0.01		√
Barium	mg/L	4	ND	ND	ND	0.0002	1.5		√
Boron	mg/L	4	0.02	0.01	0.01	0.005	2.4		√
Cadmium	mg/L	4	0.00	0.00	0.00	0.00005	0.004		√
Chromium	mg/L	4	ND	ND	ND	0.0001	0.05		√
Copper	mg/L	4	ND	ND	0.0000525	0.0002	2	1	√
Lead	mg/L	4	ND	ND	ND	0.0001	0.01		√
Lithium	mg/L	4	ND	ND	ND	0.0001			

Trace Elements cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Mercury	mg/L	4	ND	ND	ND	0.00005	0.007		√
Molybdenum	mg/L	4	ND	ND	ND	0.0003			
Nickel	mg/L	4	0.00	0.00	0.0000575	0.0001	0.08		√
Selenium	mg/L	4	ND	ND	ND	0.0005	0.04		√
Zinc	mg/L	4	ND	ND	ND	0.001		1.5	

Trihalomethanes									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Bromodichloromethane	mg/L	52	0.01	ND	ND	0.0001	0.06		√
Bromoform	mg/L	52	ND	ND	ND	0.0001	0.1		√
Chloroform	mg/L	52	ND	ND	ND	0.0001	0.4		√
Dibromochloromethane	mg/L	52	0.01	ND	0.01	0.0001	0.15		√
THM Sum Ratio		52	0.19	0.06	0.11	0.10	1		√

ds

Volatile Organic Compounds									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
1,1,1-trichloroethane	mg/L	4	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	4	ND	ND	ND	0.0001		0.01	
1,2,4-trichlorobenzene	mg/L	4	ND	ND	ND	0.0001		0.005	
1,2-dichlorobenzene	mg/L	4	ND	ND	ND	0.0001	1.5	0.001	√
1,2-dichloroethane	mg/L	4	ND	ND	ND	0.0001	0.03		√
1,4-dichlorobenzene	mg/L	4	ND	ND	ND	0.0001	0.4	0.0003	√
Benzene	mg/L	4	ND	ND	ND	0.0001	0.01		√
Carbon tetrachloride	mg/L	4	ND	ND	ND	0.0001	0.005		√
Ethylbenzene	mg/L	4	ND	ND	ND	0.0001	0.3	0.002	√
Xylenes (total)	mg/L	4	ND	ND	ND	0.0001	0.6	0.02	√
Styrene	mg/L	4	ND	ND	ND	0.0001	0.03	0.004	√

Volatile Organic Compounds cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Tetrachloroethene	mg/L	4	ND	ND	ND	0.0001	0.05		√
Toluene	mg/L	4	ND	ND	ND	0.0001	0.8	0.03	√
1,2-dichloroethene (cis + trans)	mg/L	4	ND	ND	ND	0.0001	0.06		√
Trichloroethene	mg/L	4	ND	ND	ND	0.0001	0.03		√

Halo Acetic Acids (HAAs)									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit***	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Bromoacetic Acid	mg/L	4	ND	ND	ND	0.001			
Bromochloroacetic Acid	mg/L	4	ND	ND	ND	0.001			
Dibromoacetic Acid	mg/L	4	ND	ND	ND	0.001			
Dichloroacetic Acid	mg/L	4	ND	ND	ND	0.001	0.05		√
Trichloroacetic Acid	mg/L	4	ND	ND	ND	0.001	0.2		√
HAA Sum Ratio		4	0.04	ND	0.02				

Huia WTP Treated Water

Acid Herbicides									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
2,4,5- trichlorophenoxyacetic acid (2,4,5-T)	mg/L	4	ND	ND	ND	0.0001	0.01		√
2,4-Dichlorophenoxyacetic acid (2,4-D)	mg/L	4	ND	ND	ND	0.0001	0.04		√
4-(2,4-dichlorophenoxyl) butanoic acid (2,4-DB)	mg/L	4	ND	ND	ND	0.0001	0.1		√
Bentazone	mg/L	4	ND	ND	ND	0.0001			
Dichlorprop	mg/L	4	ND	ND	ND	0.0001	0.1		√
MCPA	mg/L	4	ND	ND	ND	0.0001	0.8		√
Mecoprop	mg/L	4	ND	ND	ND	0.0001	0.01		√
Picloram	mg/L	4	ND	ND	ND	0.0001	0.2		√
Triclopyr	mg/L	4	ND	ND	ND	0.0001	0.1		√

Chemical and Physical									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
UV absorbance at 254nm	Abs units	51	0.03	0.01	0.02	0.002			
Alkalinity (Total) as $CaCO_3$	mg/L	51	18.00	11.00	14.84	1			
Aluminium	mg/L	102	0.04	0.01	0.02	0.005	1	0.1	√
Bromate	mg/L	4	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	4	0.03	ND	0.01	0.005			
Calcium	mg/L	4	9.30	8.10	8.70	0.01			
Calcium Hardness	mg/L	12	23.00	20.00	21.50	0.025			
Chlorate	mg/L	4	ND	ND	ND	0.01	0.8		√
Chloride	mg/L	4	20.90	16.00	19.15	0.02		250	
Chlorine Residual	mg/L	363	1.53	0.47	1.18	0.02	5	0.3-1.0	√

Chemical and Physical cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Chlorite	mg/L	4	ND	ND	ND	0.005	0.8		√
Colour	Hazen Units	11	5.00	ND	0.91	5		15	
Conductivity	mS/m	11	14.00	11.10	12.97	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	49	0.89	ND	0.71	0.02	1.5		√
Iodide	mg/L	4	ND	ND	ND	0.001			
Iron	mg/L	102	0.06	ND	0.02	0.001		0.3	
Magnesium	mg/L	4	2.60	1.90	2.35	0.001			
Magnesium Hardness	mg/L	4	11.00	7.90	9.68	0.0041			
Manganese	mg/L	102	0.02	ND	ND	0.0005	0.4	0.04	√
pH	pH Units	364	7.60	6.70	7.33	0.1		7.0-8.5	
Potassium	mg/L	4	0.84	0.69	0.79	0.05			
Silicon	mg/L	4	15.00	11.00	12.50	0.1			
Sodium	mg/L	4	12.00	9.70	11.42	0.1		200	
Sulphate	mg/L	4	17.50	13.20	15.00	0.02		250	
Suspended Solids	mg/L	11	0.55	ND	0.14	0.2			
Total Hardness	mg/L	4	100.00	80.00	87.82	0.029		200	
Total Organic Carbon TOC	mg/L	51	2.10	0.90	1.26	0.1			
Turbidity	NTU	364	0.85	ND	0.18	0.05		5	

Microbiology									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
E. coli	cfu/100mL	364	ND	ND	ND	1	<1		√

Nutrients									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Ammonia	mg/L	4	ND	ND	ND	0.005		1.5	
Nitrate (as NO_3)	mg/L	11	0.17	0.04	0.13	0.009	50		√
Nitrite (as NO_2)	mg/L	11	ND	ND	ND	0.007	3		√
TKN (Total Kjeldahl Nitrogen)	mg/L	4	ND	ND	ND	0.1			
Total Phosphorus	mg/L	4	0.01	ND	ND	0.005			

Plasticisers									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
bis (2-ethylhexyl) adipate	µg/L	9	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	9	ND	ND	ND	2	9		√

Semi Volatile Organic Compounds									
Organochlorine Pesticides									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Aldrin + Dieldrin	µg/L	9	ND	ND	ND	0.01	0.04		√
Chlordane Total	µg/L	9	ND	ND	ND	0.01	0.2		√
Lindane	µg/L	9	ND	ND	ND	0.01	2		√
Heptachlor	µg/L	9	ND	ND	ND	0.01			
Heptachlor epoxide	µg/L	9	ND	ND	ND	0.01			
Hexachlorobenzene	µg/L	9	ND	ND	ND	0.1			
Methoxychlor	µg/L	9	ND	ND	ND	0.2	20		√
Permethrin (cis + trans)	µg/L	9	ND	ND	ND	0.2			
DDT + isomers	µg/L	9	ND	ND	ND	0.2	1		√
Procymidone	µg/L	9	ND	ND	ND	0.2	700		√

Organonitrogen Herbicides									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Alachlor	µg/L	9	ND	ND	ND	0.2	20		√
Atrazine	µg/L	9	ND	ND	ND	0.1	100		√
Metolachlor	µg/L	9	ND	ND	ND	0.1	10		√
Molinate	µg/L	9	ND	ND	ND	0.1	7		√
Pendimethalin	µg/L	9	ND	ND	ND	0.2	20		√
Propanil	µg/L	9	ND	ND	ND	0.1			
Simazine	µg/L	9	ND	ND	ND	0.1	2		√
Terbuthylazine	µg/L	9	ND	ND	ND	0.2	8		√
Trifluralin	µg/L	9	ND	ND	ND	0.2	30		√
Organophosphorus Pesticides									
Chlorpyriphos	µg/L	9	ND	ND	ND	0.2	40		√
Diazinon	µg/L	9	ND	ND	ND	0.1			
Pirimiphos-methyl	µg/L	9	ND	ND	ND	0.2	100		√

Trace Elements									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Antimony	mg/L	11	ND	ND	ND	0.001	0.02		√
Arsenic	mg/L	4	ND	ND	ND	0.0001	0.01		√
Barium	mg/L	4	ND	ND	ND	ND	ND	ND	√
Boron	mg/L	4	0.01	ND	ND	0.005	2.4		√
Cadmium	mg/L	11	ND	ND	ND	0.00005	0.004		√
Chromium	mg/L	11	ND	ND	ND	0.0001	0.05		√
Copper	mg/L	11	ND	ND	ND	0.0002	2	1	√
Lead	mg/L	11	ND	ND	ND	0.0001	0.01		√
Lithium	mg/L	4	ND	ND	ND	0.0001			
Mercury	mg/L	4	ND	ND	ND	0.00005	0.007		√

Trace Elements cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Molybdenum	mg/L	4	ND	ND	ND	0.0003	0.07		√
Nickel	mg/L	11	ND	ND	ND	0.0001	0.08		√
Selenium	mg/L	4	ND	ND	ND	0.0005	0.04		√
Zinc	mg/L	4	ND	ND	ND	0.001		1.5	

Trihalomethanes									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Bromodichloromethane	mg/L	51	0.01	ND	ND	0.0001	0.06		√
Bromoform	mg/L	51	ND	ND	ND	0.0001	0.1		√
Chloroform	mg/L	51	0.01	ND	ND	0.0001	0.4		√
Dibromochloromethane	mg/L	51	0.01	ND	ND	0.0001	0.15		√
THM Sum Ratio		51	0.19	0.07	0.12		1		√

Volatile Organic Compounds									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
1,1,1-trichloroethane	mg/L	4	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	4	ND	ND	ND	0.0001		0.01	
1,2,4-trichlorobenzene	mg/L	4	ND	ND	ND	0.0001		0.005	
1,2-dichlorobenzene	mg/L	4	ND	ND	ND	0.0001	1.5	0.001	√
1,2-dichloroethane	mg/L	4	ND	ND	ND	0.0001	0.03		√
1,4-dichlorobenzene	mg/L	4	ND	ND	ND	0.0001	0.4	0.0003	√
Benzene	mg/L	4	ND	ND	ND	0.0001	0.01		√
Carbon tetrachloride	mg/L	4	ND	ND	ND	0.0001	0.005		√
Ethylbenzene	mg/L	4	ND	ND	ND	0.0001	0.3	0.002	√
Xylenes (total)	mg/L	4	ND	ND	ND	0.0001	0.6	0.02	√
Styrene	mg/L	4	ND	ND	ND	0.0001	0.03	0.004	√

Volatile Organic Compounds cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Tetrachloroethene	mg/	4	ND	ND	ND	0.0001	0.05		√
Toluene	mg/L	4	ND	ND	ND	0.0001	0.8	0.03	√
1,2-dichloroethene (cis + trans)	mg/L	4	ND	ND	ND	0.0001	0.06		√
Trichloroethene	mg/L	4	ND	ND	ND	0.0001	0.03		√

Halo Acetic Acids (HAAs)									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit***	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Bromoacetic Acid	mg/L	4	ND	ND	ND	0.001			
Bromochloroacetic Acid	mg/L	4	ND	ND	ND	0.001			
Dibromoacetic Acid	mg/L	4	ND	ND	ND	0.001			
Dichloroacetic Acid	mg/L	4	ND	ND	ND	0.001	0.05		√
Trichloroacetic Acid	mg/L	4	ND	ND	ND	0.001	0.2		√
HAA Sum Ratio		4	0.06	ND	0.03				

Muriwai WTP Treated Water

Acid Herbicides									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
2,4,5- trichlorophenoxyacetic acid (2,4,5-T)	mg/L	4	ND	ND	ND	0.0001	0.01		√
2,4-Dichlorophenoxyacetic acid (2,4-BD)	mg/L	4	ND	ND	ND	0.0001	0.04		√
4-(2,4-dichlorophenoxyl) butanoic acid (2,4-DB)	mg/L	4	ND	ND	ND	0.0001	0.1		√
Bentazone	mg/L	4	ND	ND	ND	0.0001			
Dichlorprop	mg/L	4	ND	ND	ND	0.0001	0.1		√
MCPA	mg/L	4	ND	ND	ND	0.0001	0.8		√
Mecoprop (MCPP)	mg/L	4	ND	ND	ND	0.0001	0.01		√
Picloram	mg/L	4	ND	ND	ND	0.0001	0.2		√
Triclopyr	mg/L	4	ND	ND	ND	0.0001	0.1		√

Chemical and Physical									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
UV absorbance at 254nm	Abs units	12	0.01	ND	ND	0.002			
Alkalinity (Total) as $CaCO_3$	mg/L	4	81.00	76.00	79.50	1			
Bromate	mg/L	53	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	9	0.27	0.20	0.24	0.005			
Calcium	mg/L	4	8.30	7.40	7.65	0.01			
Calcium Hardness	mg/L	4	21.00	18.00	19.25	0.025			
Chlorate	mg/L	53	0.27	0.05	0.13	0.01	0.8		√
Chlorine Residual	mg/L	102	1.37	0.85	1.06	0.02	5	0.3-1.0	√
Chlorite	mg/L	9	ND	ND	ND	0.005	0.8		√
Colour	Hazen Units	1	ND	ND	ND	5		15	
Iron	mg/L	8	0.02	ND	0.01	0.002		0.3	
Magnesium	mg/L	4	6.90	6.00	6.33	0.001			

Chemical and Physical cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Magnesium Hardness	mg/L	4	28.00	25.00	26.00	0.0041			
Manganese	mg/L	8	ND	ND	ND	0.0005	0.4	0.04	√
pH	pH Units	102	7.80	7.30	7.49	0.1		7.0-8.5	
Suspended Solids	mg/L	4	ND	ND	ND	0.2			
Total Dissolved Solids	mg/L	4	310.00	270.00	287.50	15		1000	
Total Hardness	mg/L	4	49.00	43.00	45.25	0.029		200	
Total Organic Carbon TOC	mg/L	12	1.30	ND	0.34	0.1			
Turbidity	NTU	102	0.40	ND	0.07	0.05		5	

Microbiology									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
E. coli	cfu/100mL	102	ND	ND	ND	1	<1		√

Nutrients									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Ammonia	mg/L	4	ND	ND	ND	0.005		1.5	
Nitrate (as NO_3)	mg/L	4	4.86	4.29	4.46	0.009	50		√
Nitrite (as NO_2)	mg/L	4	ND	ND	ND	0.007	3		√
TKN (Total Kjeldahl Nitrogen)	mg/L	4	ND	ND	ND	0.1			
Total Phosphorus	mg/L	4	0.04	0.04	0.04	0.005			

Trace Elements									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Arsenic	mg/L	4	ND	ND	ND	0.0001	0.01		√
Cadmium	mg/L	4	ND	ND	ND	0.00005	0.004		√
Copper	mg/L	4	ND	ND	ND	0.0002	2	1	√
Lead	mg/L	4	ND	ND	ND	0.0001	0.01		√
Nickel	mg/L	4	ND	ND	ND	0.0001	0.08		√
Zinc	mg/L	4	ND	ND	ND	0.001		1.5	

Trihalomethanes									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Bromodichloromethane	mg/L	12	ND	ND	ND	0.0001	0.06		√
Bromoform	mg/L	12	ND	ND	ND	0.0001	0.1		√
Chloroform	mg/L	12	ND	ND	ND	0.0001	0.4		√
Dibromochloromethane	mg/L	12	ND	ND	ND	0.0001	0.15		√
THM Sum Ratio		12	0.04	0.01	0.02		1		√

Halo Acetic Acids (HAAs)									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Bromoacetic Acid	mg/L	4	ND	ND	ND	0.0005			
Bromochloroacetic Acid	mg/L	4	ND	ND	ND	0.0005			
Monochloroacetic Acid	mg/L	4	0.07	0.04	0.06	0.0005	0.02		√
Dibromoacetic Acid	mg/L	4	ND	ND	ND	0.0005			
Dichloroacetic Acid	mg/L	4	ND	ND	ND	0.0005	0.05		√
Trichloroacetic Acid	mg/L	4	ND	ND	ND	0.0005	0.2		√
HAA Sum Ratio		4	0.04	ND	0.01				

Papakura WTP Treated Water

This WTP supplies Veolia Water Papakura Distribution Networks.

Acid Herbicides

Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
1080 (Sodium fluoroacetate)	mg/L	1	ND	ND	ND	0.0001	0.035[1]		√
2,4,5- trichlorophenoxyacetic acid (2,4,5-T)	mg/L	32	ND	ND	ND	0.0001	0.01		√
2,4-Dichlorophenoxyacetic acid (2,4-BD)	mg/L	32	ND	ND	ND	0.0001	0.04		√
4-(2,4-dichlorophenoxyl) butanoic acid (2,4-DB)	mg/L	32	ND	ND	ND	0.0001	0.1		√
Bentazone	mg/L	32	ND	ND	ND	0.0001			
Dichlorprop	mg/L	32	ND	ND	ND	0.0001	0.1		√
MCPA	mg/L	32	ND	ND	ND	0.0001	0.8		√
Mecoprop	mg/L	32	ND	ND	ND	0.0001	0.01		√
Picloram	mg/L	32	ND	ND	ND	0.0001	0.2		√
Triclopyr	mg/L	32	ND	ND	ND	0.0001	0.1		√

1 – The DWSNZ2022 set out two MAVs for 1080: for short-term effect the MAV is 0.035mg/L, for long-term effect the MAV is 0.0035mg/L.

Chemical and Physical

Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
UV absorbance at 254nm	Abs units	56	0.02	0.01	0.01	0.002			
Alkalinity (Total) as $CaCO_3$	mg/L	52	22.00	9.30	17.20	1			
Aluminium	mg/L	104	0.01	ND	ND	0.005	1	0.1	√
Bromate	mg/L	53	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	6	0.03	0.02	0.02	0.005			
Calcium	mg/L	3	3.10	2.50	2.83	0.01			
Calcium Hardness	mg/L	12	7.60	5.80	6.82	0.025			
Chlorate	mg/L	53	0.20	0.06	0.11	0.01	0.8		√
Chloride	mg/L	12	26.30	21.70	23.94	0.02		250	

Chemical and Physical cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Chlorine Residual	mg/L	364	1.46	0.59	1.15	0.02	5	0.3-1.0	√
Chlorite	mg/L	6	ND	ND	ND	0.005	0.8		√
Colour	Hazen Units	12	5.00	ND	1.25	5		15	
Conductivity	mS/m	12	18.10	11.30	13.11	0.5			
Cyanide	mg/L	3	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	52	0,95	ND	0.79	0.02	1.5		√
Iodide	mg/L	3	ND	ND	ND	0.001			
Iron	mg/L	104	0.11	ND	ND	0.002		0.3	
Magnesium	mg/L	12	1,60	1.10	1.38	0.001			
Magnesium Hardness	mg/L	12	6.60	4.60	5.65	0.0041			
Manganese	mg/L	24	0.01	ND	ND	0.0005	0.4	0.04	√
pH	pH Units	364	8.80	6.20	7.44	0.1		7.0-8.5	
Potassium	mg/L	12	1.70	1.30	1.51	0.05			
Silicon	mg/L	3	13.00	9.60	10.77	0.1			
Sodium	mg/L	3	20.00	17.00	18.67	0.1		200	
Sulphate	mg/L	12	5.17	4.00	4.45	0.02		250	
Suspended Solids	mg/L	12	0.20	ND	0.03	0.2			
Total Dissolved Solids	mg/L	12	130.00	55.00	72.92			1000	
Total Hardness	mg/L	12	14.00	10.00	12.33	0.029		200	
Total Organic Carbon TOC	mg/L	16	1.60	0.90	1.14	0.1			
Turbidity	NTU	364	0.55	ND	0.04	0.05		5	

Microbiology cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
E. coli	cfu/100mL	363	ND	ND	ND	1	<1		√

Nutrients									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Ammonia	mg/L	3	ND	ND	ND	0.005		1.5	
Nitrate (as NO_3)	mg/L	12	1.76	0.61	1.15	0.009	50		√
Nitrite (as NO_2)	mg/L	12	ND	ND	ND	0.007	3		√
TKN (Total Kjeldahl Nitrogen)	mg/L	12	ND	ND	ND	0.1			

Plasticizers									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
bis (2-ethylhexyl) adipate	µg/L	32	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	32	ND	ND	ND	2	9		√

Semi Volatile Organic Compounds									
Organochlorine Pesticides									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Aldrin + Dieldrin	µg/L	32	ND	ND	ND	0.01	0.04		√
Chlordane	µg/L	32	ND	ND	ND	0.01	0.2		√
Lindane	µg/L	32	ND	ND	ND	0.01	2		√
Heptachlor	µg/L	32	ND	ND	ND	0.01			
Heptachlor epoxide	µg/L	32	ND	ND	ND	0.01			
Hexachlorobenzene	µg/L	32	ND	ND	ND	0.1			

Organochlorine Pesticides cont.									
Units	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Methoxychlor	µg/L	32	ND	ND	ND	0.2	20		√
Permethrin (cis + trans)	µg/L	32	ND	ND	ND	0.2			
DDT + isomers	µg/L	32	ND	ND	ND	0.2	1		√
Procymidone	µg/L	32	ND	ND	ND	0.2	700		√
Organonitrogen Herbicides									
Alachlor	µg/L	32	ND	ND	ND	0.2	20		√
Atrazine	µg/L	64	ND	ND	ND	0.1	100		√
Metolachlor	µg/L	64	ND	ND	ND	0.1	10		√
Molinate	µg/L	64	ND	ND	ND	0.1	7		√
Pendimethalin	µg/L	32	ND	ND	ND	0.2	20		√
Propanil	µg/L	64	ND	ND	ND	0.1			
Simazine	µg/L	54	ND	ND	ND	0.1	2		√
Terbuthylazine	µg/L	64	ND	ND	ND	0.2	8		√
Trifluralin	µg/L	32	ND	ND	ND	0.2	30		√
Organophosphorus Pesticides									
Chlorpyriphos	µg/L	32	ND	ND	ND	0.2	40		√
Diazinon	µg/L	64	ND	ND	ND	0.1			
Pirimiphos methyl	µg/L	32	ND	ND	ND	0.2	100		√

Trace Elements									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Antimony	mg/L	3	ND	ND	ND	0.001	0.02		√
Arsenic	mg/L	12	ND	ND	ND	0.0001	0.01		√
Barium	mg/L	12	0.02	0.01	0.01	0.0002	1.5		√
Boron	mg/L	12	0.01	ND	ND	0.005	2.4		√
Cadmium	mg/L	3	ND	ND	ND	0.00005	0.004		√
Chromium	mg/L	3	ND	ND	ND	0.0001	0.05		√

Trace Elements cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Copper	mg/L	3	ND	ND	0.00008	0.0002	2	1	√
Lead	mg/L	3	ND	ND	ND	0.0001	0.01		√
Lithium	mg/L	3	ND	ND	ND	0.0001			
Mercury	mg/L	3	ND	ND	ND	0.00005	0.007		√
Molybdenum	mg/L	3	ND	ND	ND	0.0003			
Nickel	mg/L	3	ND	ND	ND	0.0001	0.08		√
Selenium	mg/L	3	ND	ND	ND	0.0005	0.04		√
Zinc	mg/L	3	ND	ND	ND	0.001		1.5	

Trihalomethanes									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Bromodichloromethane	mg/L	56	ND	ND	ND	0.0001	0.06		√
Bromoform	mg/L	56	ND	ND	ND	0.0001	0.1		√
Chloroform	mg/L	56	ND	ND	ND	0.0001	0.4		√
Dibromochloromethane	mg/L	56	0.01	ND	ND	0.0001	0.15		√
THM Sum Ratio		56	0.17	0.05	0.10		1		√

Volatile Organic Compounds									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
1,1,1-trichloroethane	mg/L	36	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	36	ND	ND	ND	0.0001		0.01	
1,2,4-trichlorobenzene	mg/L	36	ND	ND	ND	0.0001		0.005	
1,2-dichlorobenzene	mg/L	36	ND	ND	ND	0.0001	1.5	0.001	√
1,2-dichloroethane	mg/L	36	ND	ND	ND	0.0001	0.03		√
1,4-dichlorobenzene	mg/L	36	ND	ND	ND	0.0001	0.4	0.0003	√
Benzene	mg/L	36	ND	ND	ND	0.0001	0.01		√
Carbon tetrachloride	mg/L	36	ND	ND	ND	0.0001	0.005		√

Volatile Organic Compounds cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Ethylbenzene	mg/L	36	ND	ND	ND	0.0001	0.3	0.002	√
Xylenes (total)	mg/L	36	ND	ND	ND	0.0001	0.6	0.02	√
Styrene	mg/L	36	ND	ND	ND	0.0001	0.03	0.004	√
Tetrachloroethene	mg/L	36	ND	ND	ND	0.0001	0.05		√
Toluene	mg/L	36	ND	ND	ND	0.0001	0.8	0.03	√
1,2-dichloroethene (cis + trans)	mg/L	36	ND	ND	ND	0.0001	0.06		√

Halo Acetic Acids (HAAs)									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Bromoacetic Acid	mg/L	12	ND	ND	ND	0.001			
Bromochloroacetic Acid	mg/L	12	ND	ND	ND	0.001			
Dibromoacetic Acid	mg/L	12	ND	ND	ND	0.001			
Dichloroacetic Acid	mg/L	12	ND	ND	ND	0.001	0.05		√
Trichloroacetic Acid	mg/L	12	ND	ND	ND	0.001	0.2		√
HAA Sum Ratio		12	0.14	ND	0.06				

Pukekohe WTP Treated Water

Acid Herbicides									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
2,4,5- trichlorophenoxyacetic acid (2,4,5-T)	mg/L	11	ND	ND	ND	0.0001	0.01		√
2,4-Dichlorophenoxyacetic acid (2,4-D)	mg/L	11	ND	ND	ND	0.0001	0.04		√
4-(2,4-dichlorophenoxyl) butanoic acid (2,4-DB)	mg/L	11	ND	ND	ND	0.0001	0.1		√
Bentazone	mg/L	11	ND	ND	ND	0.0001			
Dichlorprop	mg/L	11	ND	ND	ND	0.0001	0.1		√
MCPA	mg/L	11	ND	ND	ND	0.0001	0.8		√
Mecoprop	mg/L	11	ND	ND	ND	0.0001	0.01		√
Picloram	mg/L	11	ND	ND	ND	0.0001	0.2		√
Triclopyr	mg/L	11	ND	ND	ND	0.0001	0.1		√

Chemical and Physical									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Alkalinity (Total) as $CaCO_3$	mg/L	11	130.00	120.00	120.91	1			
Aluminium	mg/L	8	ND	ND	ND	0.005	1	0.1	√
Bromate	mg/L	54	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	20	0.08	ND	0.03	0.005			
Calcium	mg/L	11	29.00	23.00	26.55	0.01			
Calcium Hardness	mg/L	11	71.00	57.00	66.09	0.025			
Chlorate	mg/L	54	0.75	0.11	0.27	0.01	0.8		√

Chemical and Physical cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Chloride	Mg/L	50	29.90	19.60	27.64	0.02		250	
Chlorine Residual	mg/L	361	1.68	0.65	1.19	0.02	5	0.3-1.0	√
Chlorite	mg/L	14	ND	ND	ND	0.005	0.8		√
Colour	Hazen Units	11	ND	ND	ND	5		15	
Conductivity	mS/m	11	33.90	30.20	32.27	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	50	0.88	0.04	0.75	0.02	1.5		√
Iodide	mg/L	1	0.01	0.01	0.01	0.001			
Iron	mg/L	100	0.17	ND	ND	0.002		0.3	
Magnesium	mg/L	11	7.40	6.40	6.87	0.001			
Magnesium Hardness	mg/L	11	31.00	26.00	28.27	0.0041			
Manganese	mg/L	100	ND	ND	ND	0.0005	0.4	0.04	√
pH	pH unit	361	8.30	7.30	7.99	0.1		7.0-8.5	
Potassium	mg/L	4	4.10	3.80	3.92	0.05			
Silicon	mg/L	11	33.00	27.00	30.27	0.1			
Sodium	mg/L	4	30.00	27.00	28.75	0.1		200	
Sulphate	mg/L	11	4.30	3.10	3.67	0.02		250	
Suspended Solids	mg/L	11	0.40	ND	0.16	0.2			
Total Dissolved Solids	mg/L	11	220.00	180.00	200.00	15.00			
Total Hardness	mg/L	11	100.00	84.00	94.36	0.029		200	
Total Organic Carbon	mg/L	11	2.40	ND	0.89	0.1			
Turbidity	NTU	361	0.60	ND	0.02	0.05		5	

Microbiology									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
E. coli	cfu/100mL	361	ND	ND	ND	1	<1		√

Nutrients									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Ammonia	mg/L	11	ND	ND	ND	0.005		1.5	
Nitrate (as NO_3)	mg/L	11	0.17	ND	0.13	0.009	50		√
Nitrite (as NO_2)	mg/L	11	ND	ND	ND	0.007	3		√
TKN (Total Kjeldahl Nitrogen)	mg/L	11	ND	ND	ND	0.1			
Total Phosphorus	mg/L	22	0.08	0.07	0.07	0.005			

Plasticizers									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
bis (2-ethylhexyl) adipate	µg/L	11	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	11	ND	ND	ND	2	9		√

Semi Volatile Organic Compounds Organochlorine Pesticides									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWSNZ**	**Compliance DWSNZ2022**
Aldrin + Dieldrin	µg/L	11	ND	ND	ND	0.01	0.04		√
Chlordane	µg/L	11	ND	ND	ND	0.01	0.2		√
Llindane	µg/L	11	ND	ND	ND	0.01	2		√
Heptachlor	µg/L	11	ND	ND	ND	0.01			
Heptachlor epoxide	µg/L	11	ND	ND	ND	0.01			
Hexachlorobenzene	µg/L	11	ND	ND	ND	0.1			
Methoxychlor	µg/L	11	ND	ND	ND	0.2	20		√

Organochlorine Pesticides cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWSNZ**	**Compliance DWSNZ2022**
Permethrin (cis + trans)	µg/L	11	ND	ND	ND	0.2			
DDT + isomers	µg/L	11	ND	ND	ND	0.2	1		√
Procymidone	µg/L	11	ND	ND	ND	0.2	700		√
Organonitrogen Herbicides									
Alachlor	µg/L	22	ND	ND	ND	0.2	20		√
Atrazine	µg/L	22	ND	ND	ND	0.1	100		√
Metolachlor	µg/L	22	ND	ND	ND	0.1	10		√
Molinate	µg/L	22	ND	ND	ND	0.1	7		√
Pendimethalin	µg/L	22	ND	ND	ND	0.2	20		√
Propanil	µg/L	22	ND	ND	ND	0.1			
Simazine	µg/L	22	ND	ND	ND	0.1	2		√
Terbuthylazine	µg/L	33	ND	ND	ND	0.2	8		√
Trifluralin	µg/L	11	ND	ND	ND	0.2	30		√
Organophosphorus Pesticides									
Chlorpyriphos	µg/L	22	ND	ND	ND	0.2	40		√
Diazinon	µg/L	22	ND	ND	ND	0.1			
Pirimiphos methyl	µg/L	11	ND	ND	ND	0.2	100		√

Trace Elements									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Antimony	mg/L	4	ND	ND	ND	0.001	0.02		√
Arsenic	mg/L	4	ND	ND	0.000055	0.0001	0.01		√
Barium	mg/L	4	ND	ND	ND	0.0002	1.5		√
Boron	mg/L	4	0.01	0.01	0.01	0.005	2.4		√
Cadmium	mg/L	4	ND	ND	ND	0.00005	0.004		√
Chromium	mg/L	4	ND	ND	ND	0.0001	0.05		√
Copper	mg/L	4	ND	ND	ND	0.0002	2	1	√

Trace Elements cont.

Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Lead	mg/L	4	ND	ND	ND	0.0001	0.01		√
Lithium	mg/L	4	0.01	0.01	0.01	0.0001			
Mercury	mg/L	4	ND	ND	ND	0.00005	0.007		√
Molybdenum	mg/L	4	ND	ND	ND	0.0003			
Nickel	mg/L	4	ND	ND	ND	0.0001	0.08		√
Selenium	mg/L	4	ND	ND	ND	0.0005	0.04		√
Zinc	mg/L	4	ND	ND	ND	0.001		1.5	

Trihalomethanes

Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Bromodichloromethane	mg/L	11	0.01	ND	ND	0.0001	0.06		√
Bromoform	mg/L	11	ND	ND	ND	0.0001	0.1		√
Chloroform	mg/L	11	0.01	ND	ND	0.0001	0.4		√
Dibromochloromethane	mg/L	11	ND	ND	ND	0.0001	0.15		√
THM Sum Ratio		11	0.09	0.01	0.06		1		√

Volatile Organic Compounds

Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
1,1,1-trichloroethane	mg/L	11	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	11	ND	ND	ND	0.0001		0.01	
1,2,4-trichlorobenzene	mg/L	11	ND	ND	ND	0.0001		0.005	
1,2-dichlorobenzene	mg/L	11	ND	ND	ND	0.0001	1.5	0.001	√
1,2-dichloroethane	mg/L	11	ND	ND	ND	0.0001	0.03		√
1,4-dichlorobenzene	mg/L	11	ND	ND	ND	0.0001	0.4	0.0003	√
Benzene	mg/L	11	ND	ND	ND	0.0001	0.01		√
Carbon tetrachloride	mg/L	11	ND	ND	ND	0.0001	0.005		√
Ethylbenzene	mg/L	11	ND	ND	ND	0.0001	0.3	0.002	√

Volatile Organic Compounds cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Xylenes (total)	mg/L	11	ND	ND	ND	0.0001	0.6	0.02	√
Styrene	mg/L	11	ND	ND	ND	0.0001	0.03	0.004	√
Tetrachloroethene	mg/L	11	ND	ND	ND	0.0001	0.05		√
Toluene	mg/L	11	ND	ND	ND	0.0001	0.8	0.03	√
1,2-dichloroethene (cis + trans)	mg/L	11	ND	ND	ND	0.0001	0.06		√
Trichloroethene	mg/L	11	ND	ND	ND	0.0001	0.03		√

Halo Acetic Acids (HAAs)									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Bromoacetic Acid	mg/L	4	ND	ND	ND	0.0005			
Bromochloroacetic Acid	mg/L	4	ND	ND	ND	0.0005			
Dibromoacetic Acid	mg/L	4	ND	ND	ND	0.0005			
Dichloroacetic Acid	mg/L	4	ND	ND	ND	0.0005	0.05		√
Trichloroacetic Acid	mg/L	4	0.01	ND	ND	0.0005	0.2		√
HAA Sum Ratio		4	0.07	ND	0.02				

Snells/Algies WTP Treated Water

Chemical and Physical									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
UV absorbance at 254nm	Abs units	1	0.01	0,01	0.01	0.002			
Alkalinity (Total) as $CaCO_3$	mg/L	4	200.00	190.00	195.00	1			
Aluminium	mg/L	2	ND	ND	ND	0.005	1	0.1	√
Bromate	mg/L	7	0.01	ND	ND	0.005	0.01		√
Bromide	mg/L	4	0.15	0.01	0.05	0.005			
Calcium	mg/L	4	4.50	3.80	4.20	0.01			
Calcium Hardness	mg/L	4	11.00	9.50	10.38	0.025			
Chlorate	mg/L	7	0.03	ND	0.01	0.01	0.8		√
Chloride	mg/L	1	56.90	56.90	56.90	0.02		250	
Chlorine Residual	mg/L	106	1.74	0.96	1.43	0.02	5	0.3-1.0	√
Chlorite	mg/L	4	ND	ND	ND	0.005	0.8		√
Colour	Hazen Units	1	5.00	5.00	5.00	5		15	
Conductivity	mS/m	1	55.00	55.00	55.00	0.5			
Cyanide	mg/L	1	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	1	0.12	0.12	0.12	0.02	1.5		√
Iodide	mg/L	1	0,01	0.01	0.01	0.001			
Iron	mg/L	24	0.02	ND	ND	0.002		0.3	
Magnesium	mg/L	4	0.38	0.33	0.36	0.001			
Magnesium Hardness	mg/L	4	1.60	1.40	1.50	0.0041			
Manganese	mg/L	24	ND	ND	ND	0.0005	0.4	0.04	√
pH	pH Units	106	8.30	7.20	8.22	0.1		7.0-8.5	
Potassium	mg/L	1	0.32	0.32	0.32	0.05			
Silicon	mg/L	1	43.00	43.00	43.00	0.1			
Sodium	mg/L	1	120.00	120.00	120.00	0.1		200	
Sulphate	mg/L	1	8.45	8.45	8.45	0.02		250	
Suspended Solids	mg/L	1	ND	ND	ND	0.2			

Chemical and Physical cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Total Dissolved Solids	mg/L	1	370.00	370.00	370.00	15			
Total Hardness	mg/L	4	13.00	11.00	12.00	0.029		200	
Total Organic Carbon TOC	mg/L	1	0.40	0.40	0.40	0.1			
Turbidity	NTU	106	0,70	ND	0.05	0.05		5	

Microbiology									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
E. coli	cfu/100mL	106	ND	ND	ND	1	<1		√

Nutrients									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Ammonia	mg/L	1	ND	ND	ND	0.005		1.5	
Nitrate (as NO_3)	mg/L	1	0.04	0.04	0.04	0.009	50		√
Nitrite (as NO_2)	mg/L	1	ND	ND	ND	0.007	3		√
TKN (Total Kjeldahl Nitrogen)	mg/L	1	ND	ND	ND	0.1			
Total Phosphorus	mg/L	1	0,08	0.08	0.08	0.005			

Plasticizers									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
bis (2-ethylhexyl) adipate	µg/L	1	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	1	ND	ND	ND	2	9		√

Trace Elements									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Antimony	mg/L	1	ND	ND	ND	0.001	0.02		√
Arsenic	mg/L	12	ND	ND	ND	0.0001	0.01		√
Barium	mg/L	1	ND	ND	ND	0.0002	1.5		√
Boron	mg/L	1	0.16	0.16	0.16	0.005	2.4		√
Cadmium	mg/L	1	ND	ND	ND	0.00005	0.004		√
Chromium	mg/L	1	ND	ND	ND	0.0001	0.05		√
Copper	mg/L	1	ND	ND	ND	0.0002	2	1	√
Lead	mg/L	1	ND	ND	ND	0.0001	0.01		√
Lithium	mg/L	1	0,03	0.03	0.03	0.0001			
Mercury	mg/L	1	ND	ND	ND	0.00005	0.007		√
Molybdenum	mg/L	1	ND	ND	ND	0.0003			
Nickel	mg/L	1	ND	ND	ND	0.0001	0.08		√
Selenium	mg/L	1	ND	ND	ND	0.0005	0.04		√
Zinc	mg/L	1	ND	ND	ND	0.001		1.5	

Trihalomethanes									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Bromodichloromethane	mg/L	12	ND	ND	ND	0.0001	0.06		√
Bromoform	mg/L	12	ND	ND	ND	0.0001	0.1		√
Chloroform	mg/L	12	ND	ND	0.00002 75	0.0001	0.4		√
Dibromochloromethane	mg/L	12	ND	ND	ND	0.0001	0.15		√
THM Ratio		12	0.05	0.02	0.04		1		√

Volatile Organic Compounds									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
1,1,1-trichloroethane	mg/L	1	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	1	ND	ND	ND	0.0001		0.01	
1,2,4-trichlorobenzene	mg/L	1	ND	ND	ND	0.0001		0.005	
1,2-dichlorobenzene	mg/L	1	ND	ND	ND	0.0001	1.5	0.001	√
1,2-dichloroethane	mg/L	1	ND	ND	ND	0.0001	0.03		√
1,4-dichlorobenzene	mg/L	1	ND	ND	ND	0.0001	0.4	0.0003	√
Benzene	mg/L	1	ND	ND	ND	0.0001	0.01		√
Carbon tetrachloride	mg/L	1	ND	ND	ND	0.0001	0.005		√
Ethylbenzene	mg/L	1	ND	ND	ND	0.0001	0.3	0.002	√
Xylene	mg/L	1	ND	ND	ND	0.0001	0.6	0.02	√
Styrene	mg/L	1	ND	ND	ND	0.0001	0.03	0.004	√
Tetrachloroethene	mg/L	1	ND	ND	ND	0.0001	0.05		√
Toluene	mg/L	1	ND	ND	ND	0.0001	0.8	0.03	√
1,2-dichloroethene (cis + trans)	mg/L	1	ND	ND	ND	0.0001	0.06		√
Trichloroethene	mg/L	1	ND	ND	ND	0.0001	0.03		√

Victoria Avenue WTP Treated Water

Chemical and Physical									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Alkalinity (Total) as $CaCO_3$	mg/L	4	130.00	130.00	130.00	1			
Aluminium	mg/L	2	ND	ND	ND	0.005	1	0.1	√
Bromate	mg/L	12	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	2	0.08	0.08	0.08	0.005			
Calcium	mg/L	12	34.00	28.00	30.58	0.01			
Calcium Hardness	mg/L	12	85.00	70.00	76.75	0.025			
Chlorate	mg/L	12	0.04	ND	0.02	0.01	0.8		√
Chloride	mg/L	1	33.10	33.10	33.10	0.02		250	
Chlorine Residual	mg/L	104	1.33	0.46	0.90	0.02	5	0.3-1.0	√
Chlorite	mg/L	2	ND	ND	ND	0.005	0.8		√
Colour	Hazen Units	7	5.00	ND	0.71	5		15	
Conductivity	mS/m	1	35.30	35.30	35.30	0.5			
Cyanide	mg/L	1	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	1	0.04	0.04	0.04	0.02	1.5		√
Iodide	mg/L	1	0.01	0.01	0.01	0.001			
Iron	mg/L	30	0.02	ND	ND	0.002		0.3	
Magnesium	mg/L	12	10.00	7.40	8.82	0.001			
Magnesium Hardness	mg/L	12	42.00	30.00	36.25	0.0041			
Manganese	mg/L	30	ND	ND	ND	0.0005	0.4	0.04	√
pH	pH Units	104	8.20	7.70	7.89	0.1		7.0-8.5	
Potassium	mg/L	1	4.00	4.00	4.00	0.05			
Silicon	mg/L	1	48.00	48.00	48.00	0.1			
Sodium	mg/L	1	23.00	23.00	23.00	0.1		200	
Sulphate	mg/L	1	5.10	5.10	5.10	0.02		250	
Suspended Solids	mg/L	1	0.20	0.20	0.20	0.2			

Chemical and Physical cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Total Dissolved Solids	mg/L	1	230.00	230.00	230.00	15		1000	
Total Hardness	mg/L	12	120.00	100.00	111.67	0.029		200	
Turbidity	NTU	104	0.20	ND	0.10	0.05		5	

Microbiology									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
E. coli	cfu/100mL	104	ND	ND	ND	1	<1		√

Nutrients									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Ammonia	mg/L	1	ND	ND	ND	0.005		1.5	
Nitrate (as NO_3)	mg/L	1	0.17	0.17	0.17	0.009	50		√
Nitrite (as NO_2)	mg/L	1	ND	ND	ND	0.007	3		√
TKN (Total Kjeldahl Nitrogen)	mg/L	1	ND	ND	ND	0.1			
Total Phosphorus	mg/L	1	0.06	0.06	0.06	0.005			

Plasticizers									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
bis (2-ethylhexyl) adipate	µg/L	1	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	1	ND	ND	ND	2	9		√

Semi Volatile Organic Compounds									
Organochlorine Pesticides									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Aldrin + Dieldrin	µg/L	1	ND	ND	ND	0.01	0.04		√
Chlordane	µg/L	1	ND	ND	ND	0.01	0.2		
Lindane	µg/L	1	ND	ND	ND	0.01	2		√
Heptachlor	µg/L	1	ND	ND	ND	0.01			
Heptachlor epoxide	µg/L	1	ND	ND	ND	0.01			
Hexachlorobenzene	µg/L	1	ND	ND	ND	0.1			
Methoxychlor	µg/L	1	ND	ND	ND	0.2	20		√
Permethrin (cis + trans)	µg/L	1	ND	ND	ND	0.2			
DDT + isomers	µg/L	1	ND	ND	ND	0.2	1		√
Procymidone	µg/L	1	ND	ND	ND	0.2	700		√
Organonitrogen Herbicides									
Alachlor	µg/L	1	ND	ND	ND	0.2	20		√
Atrazine	µg/L	1	ND	ND	ND	0.1	100		√
Metolachlor	µg/L	1	ND	ND	ND	0.1	10		√
Molinate	µg/L	1	ND	ND	ND	0.1	7		√
Pendimethalin	µg/L	1	ND	ND	ND	0.2	20		√
Propanil	µg/L	1	ND	ND	ND	0.1			
Simazine	µg/L	1	ND	ND	ND	0.1	2		√
Terbuthylazine	µg/L	1	ND	ND	ND	0.2	8		√
Trifluralin	µg/L	1	ND	ND	ND	0.2	30		√
Organophosphorus Pesticides									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Chlorpyriphos	µg/L	1	ND	ND	ND	0.2	40		√
Diazinon	µg/L	1	ND	ND	ND	0.1			
Pirimiphos methyl	µg/L	1	ND	ND	ND	0.2	100		√

Trace Elements

Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Antimony	mg/L	1	ND	ND	ND	0.001	0.02		√
Arsenic	mg/L	18	0.01	ND	ND	0.0001	0.01		√
Barium	mg/L	1	ND	ND	ND	0.0002	1.5		√
Boron	mg/L	1	0.02	0.02	0.02	0.005	2.4		√
Cadmium	mg/L	1	ND	ND	ND	0.00005	0.004		√
Chromium	mg/L	1	ND	ND	ND	0.0001	0.05		√
Copper	mg/L	1	ND	ND	ND	0.0002	2	1	√
Lead	mg/L	1	ND	ND	ND	0.0001	0.01		√
Lithium	mg/L	1	0.01	0.01	0.01	0.0001			
Mercury	mg/L	1	ND	ND	ND	0.00005	0.007		√
Molybdenum	mg/L	1	ND	ND	ND	0.0003	0		
Nickel	mg/L	1	ND	ND	ND	0.0001	0.08		√
Selenium	mg/L	1	ND	ND	ND	0.0005	0.04		√
Zinc	mg/L	1	0.01	0.01	0.01	0.001		1.5	

Trihalomethanes

Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Bromodichloromethane	mg/L	12	ND	ND	ND	0.0001	0.06		√
Bromoform	mg/L	12	ND	ND	ND	0.0001	0.1		√
Chloroform	mg/L	12	ND	ND	ND	0.0001	0.4		√
Dibromochloromethane	mg/L	12	0.01	ND	ND	0.0001	0.15		√
THM Ratio		12	0.12	0.04	0.07		1		√

Volatile Organic Compounds									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
1,1,1-trichloroethane	mg/L	1	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	1	ND	ND	ND	0.0001		0.01	
1,2,4-trichlorobenzene	mg/L	1	ND	ND	ND	0.0001		0.005	
1,2-dichlorobenzene	mg/L	1	ND	ND	ND	0.0001	1.5	0.001	√
1,2-dichloroethane	mg/L	1	ND	ND	ND	0.0001	0.03		√
1,4-dichlorobenzene	mg/L	1	ND	ND	ND	0.0001	0.4	0.0003	√
Benzene	mg/L	1	ND	ND	ND	0.0001	0.01		√
Carbon tetrachloride	mg/L	1	ND	ND	ND	0.0001	0.005		√
Ethylbenzene	mg/L	1	ND	ND	ND	0.0001	0.3	0.002	√
Xylene	mg/L	1	ND	ND	ND	0.0001	0.6	0.02	√
Styrene	mg/L	1	ND	ND	ND	0.0001	0.03	0.004	√
Tetrachloroethene	mg/L	1	ND	ND	ND	0.0001	0.05		√
Toluene	mg/L	1	ND	ND	ND	0.0001	0.8	0.03	√
1,2-dichloroethene (cis + trans)	mg/L	1	ND	ND	ND	0.0001	0.06		√
Trichloroethene	mg/L	1	ND	ND	ND	0.0001	0.03		√

Waikato 175 WTP Treated Water

Acid Herbicides									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
1080 (Sodium fluoroacetate)	mg/L	2	ND	ND	ND	0.0001	0.035[1]		√
2,4,5- trichlorophenoxyacetic acid (2,4,5-T)	mg/L	12	ND	ND	ND	0.0001	0.01		√
2,4-Dichlorophenoxyacetic acid (2,4-BD)	mg/L	12	ND	ND	ND	0.0001	0.04		√
4-(2,4-dichlorophenoxyl) butanoic acid (2,4-DB)	mg/L	12	ND	ND	ND	0.0001	0.1		√
Bentazone	mg/L	12	ND	ND	ND	0.0001			
Dichlorprop	mg/L	12	ND	ND	ND	0.0001	0.1		√
MCPA	mg/L	12	ND	ND	ND	0.0001	0.8		√
Mecoprop	mg/L	12	ND	ND	ND	0.0001	0.01		√
Picloram	mg/L	12	ND	ND	ND	0.0001	0.2		√
Triclopyr	mg/L	12	ND	ND	ND	0.0001	0.1		√

1 – The DWSNZ2022 set out two MAVs for 1080: for short-term effect the MAV is 0.035mg/L, for long-term effect the MAV is 0.0035mg/L.

Chemical and Physical									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
UV absorbance at 254nm	Abs units	51	0.04	0.01	0.02	0.002			
Alkalinity (Total) as $CaCO_3$	mg/L	70	59.00	34.00	43.14	1			
Aluminium	mg/L	102	0.06	0.01	0.03	0.005	1	0.1	√
Bromate	mg/L	60	0.01	ND	ND	0.005	0.01		√
Bromide	mg/L	41	0.12	ND	0.02	0.005			
Calcium	mg/L	12	21.00	13.00	16.83	0.01			
Calcium Hardness	mg/L	12	52.00	32.00	41.58	0.025			
Chlorate	mg/L	60	0.13	ND	0.05	0.01	0.8		√
Chloride	mg/L	30	25.40	18.50	22.62	0.02		250	

Chemical and Physical cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Chlorine Residual	mg/L	361	1.99	0.77	1.52	0.02	5	0.3-1.0	√
Chlorite	mg/L	16	ND	ND	ND	0.005	0.8		√
Colour	Hazen Units	12	ND	ND	ND	5		15	
Conductivity	mS/m	12	24.60	19.90	21.82	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	52	0.93	0.04	0.75	0.02	1.5		√
Iodide	mg/L	4	ND	ND	ND	0.001			
Iron	mg/L	102	0.07	ND	0.02	0.002		0.3	
Magnesium	mg/L	12	3.00	2.40	2.69	0.001			
Magnesium Hardness	mg/L	12	12.00	10.00	11.08	0.0041			
Manganese	mg/L	102	0.01	ND	ND	0.0005	0.4	0.04	√
pH	pH Units	380	8.10	7.00	7.63	0.1		7.0-8.5	
Potassium	mg/L	12	3.50	2.60	3.02	0.05			
Silicon	mg/L	4	34.00	26.00	30.00	0.1			
Sodium	mg/L	12	23.00	16.00	19.75	0.1		200	
Sulphate	mg/L	11	29.00	21.20	25.99	0.02		250	
Suspended Solids	mg/L	12	0.85	ND	0.45	0.2			
Total Dissolved Solids	mg/L	12	190.00	130.00	155.00			1000	
Total Hardness	mg/L	12	62.00	42.00	52.75	0.029		200	
Total Organic Carbon TOC	mg/L	31	3.00	0.70	1.46	0.1			
Turbidity	NTU	380	1.20	ND	0.39	0.05		5	

Microbiology									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
E. coli	cfu/100mL	360	ND	ND	ND	1	<1		√

Nutrients									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Ammonia	mg/L	4	ND	ND	ND	0.005		1.5	
Nitrate (as NO_3)	mg/L	11	4.46	1.45	2.47	0.009	50		√
Nitrite (as NO_2)	mg/L	11	ND	ND	ND	0.007	3		√
TKN	mg/L	4	ND	ND	ND	0.1			
Total Phosphorus	mg/L	12	0.01	0.01	0.01	0.005			

Plasticizers									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
bis (2-ethylhexyl) adipate	µg/L	12	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	12	ND	ND	ND	2	9		√

Semi Volatile Organic Compounds									
Organochlorine Pesticides									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Aldrin + Dieldrin	µg/L	12	ND	ND	ND	0.01	0.04		√
Chlordane	µg/L	12	ND	ND	ND	0.01	0.2		√
Lindane	µg/L	12	ND	ND	ND	0.01	2		√

Organochlorine Pesticides cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Heptachlor	µg/L	12	ND	ND	ND	0.01			
Heptachlor epoxide	µg/L	12	ND	ND	ND	0.01			
Hexachlorobenzene	µg/L	12	ND	ND	ND	0.1			
Methoxychlor	µg/L	12	ND	ND	ND	0.2	20		√
Permethrin (cis + trans)	µg/L	12	ND	ND	ND	0.2			
DDT + isomers	µg/L	12	ND	ND	ND	0.2	1		√
Procymidone	µg/L	12	ND	ND	ND	0.2	700		√
Organonitrogen Herbicides									
Alachlor	µg/L	55	ND	ND	ND	0.2	20		√
Atrazine	µg/L	55	ND	ND	ND	0.1	100		√
Metolachlor	µg/L	55	ND	ND	ND	0.1	10		√
Molinate	µg/L	55	ND	ND	ND	ND	ND		√
Pendimethalin	µg/L	55	ND	ND	ND	0.2	20		√
Propanil	µg/L	55	ND	ND	ND	0.1			
Simazine	µg/L	55	ND	ND	ND	0.1	2		√
Terbuthylazine	µg/L	98	ND	ND	ND	0.2	8		√
Trifluralin	µg/L	12	ND	ND	ND	0.2	30		√
Organophosphorus Pesticides									
Chlorpyriphos	µg/L	55	ND	ND	ND	0.2	40		√
Diazinon	µg/L	55	ND	ND	ND	0.1			
Pirimiphos methyl	µg/L	12	ND	ND	ND	0.2	100		√

Trace Elements									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Antimony	mg/L	4	ND	ND	ND	0.001	0.02		√
Arsenic*	mg/L	105	ND	ND	ND	0.0001	0.01		
Barium	mg/L	12	0.02	0.02	0.02	0.0002	1.5		√

Trace Elements cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Boron	mg/L	12	0.19	0.08	0.13	0.005	2.4		√
Cadmium	mg/L	4	ND	ND	ND	0.00005	0.004		√
Chromium	mg/L	4	ND	ND	ND	0.0001	0.05		√
Copper	mg/L	4	0.01	0.01	0.01	0.0002	2	1	√
Lead	mg/L	4	ND	ND	0.00003	0.0001	0.01		√
Lithium	mg/L	4	0.05	0.03	0.04	0.0001			
Mercury	mg/L	4	ND	ND	ND	0.00005	0.007		√
Molybdenum	mg/L	4	ND	ND	0.0000875	0.0003			
Nickel	mg/L	4	ND	ND	ND	0.0001	0.08		√
Selenium	mg/L	4	ND	ND	ND	0.0005	0.04		√
Zinc	mg/L	4	ND	ND	ND	0.001		1.5	

Trihalomethanes									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Bromodichloromethane	mg/L	33	0.01	0.00	0.00	0.0001	0.06		√
Bromoform	mg/L	33	ND	ND	0.0000197	0.0001	0.1		√
Chloroform	mg/L	33	0.01	ND	ND	0.0001	0.4		√
Dibromochloromethane	mg/L	33	ND	ND	ND	0.0001	0.15		√
THM Sum Ratio		33	0.18	0.06	0.10		1		√

Volatile Organic Compounds									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
1,1,1-trichloroethane	mg/L	15	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	15	ND	ND	ND	0.0001		0.01	
1,2,4-trichlorobenzene	mg/L	18	ND	ND	ND	0.0001		0.005	
1,2-dichlorobenzene	mg/L	18	ND	ND	ND	0.0001	1.5	0.001	√
1,2-dichloroethane	mg/L	18	ND	ND	ND	0.0001	0.03		√

Volatile Organic Compounds cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
1,4-dichlorobenzene	mg/L	15	ND	ND	ND	0.0001	0.4	0.0003	√
Benzene	mg/L	15	ND	ND	ND	0.0001	0.01		√
Carbon tetrachloride	mg/L	15	ND	ND	ND	0.0001	0.005		√
Ethylbenzene	mg/L	15	ND	ND	ND	0.0001	0.3	0.002	√
Xylenes (total)	mg/L	15	ND	ND	ND	0.0001	0.6	0.02	√
Styrene	mg/L	15	ND	ND	ND	0.0001	0.03	0.004	√
Tetrachloroethene	mg/L	15	ND	ND	ND	0.0001	0.05		√
Toluene	mg/L	15	ND	ND	ND	0.0001	0.8	0.03	√
1,2-dichloroethene (cis + trans)	mg/L	15	ND	ND	ND	0.0001	0.06		√

Halo Acetic Acids (HAAs)									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Bromoacetic Acid	mg/L	12	ND	ND	ND	0.001			
Bromochloroacetic Acid	mg/L	12	ND	ND	ND	0.001			
Dibromoacetic Acid	mg/L	12	ND	ND	ND	0.001			
Dichloroacetic Acid	mg/L	12	0.01	ND	ND	0.001	0.05		√
Trichloroacetic Acid	mg/L	12	ND	ND	ND	0.001	0.2		√
HAA Sum Ratio		12	0.13	ND	0.05				

Waikato 50 WTP Treated Water

Acid Herbicides									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
2,4,5- trichlorophenoxyacetic acid (2,4,5-T)	mg/L	1	ND	ND	ND	0.0001	0.01		√
2,4-Dichlorophenoxyacetic acid (2,4-BD)	mg/L	1	ND	ND	ND	0.0001	0.04		√
4-(2,4-dichlorophenoxyl) butanoic acid (2,4-DB)	mg/L	1	ND	ND	ND	0.0001	0.1		√
Bentazone	mg/L	1	ND	ND	ND	0.0001			
Dichlorprop	mg/L	1	ND	ND	ND	0.0001	0.1		√
MCPA	mg/L	1	ND	ND	ND	0.0001	0.8		√
Mecoprop	mg/L	1	ND	ND	ND	0.0001	0.01		√
Picloram	mg/L	1	ND	ND	ND	0.0001	0.2		√
Triclopyr	mg/L	1	ND	ND	ND	0.0001	0.1		√

Chemical and Physical									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
UV absorbance at 254nm	Abs units	1	0.02	0.02	0.02	0.002			
Alkalinity (Total) as $CaCO_3$	mg/L	1	50.00	50.00	50.00	1			
Aluminium	mg/L	2	0.01	ND	ND	0.005	1	0.1	√
Calcium	mg/L	1	7.50	7.50	7.50	0.01			
Chloride	mg/L	1	31.30	31.30	31.30	0.02		250	
Chlorine Residual	mg/L	4	1.52	1.27	1.42	0.02	5	0.3-1.0	√
Conductivity	mS/m	1	22,80	22,80	22,80	0.5			
Fluoride	mg/L	1	0.04	0.04	0.04	0.02	1.5		√
Iron	mg/L	2	ND	ND	ND	0.002		0.3	
Manganese	mg/L	2	ND	ND	ND	0.0005	0.4	0.04	√
pH	pH Units	4	7.40	7.20	7.30	0.1		7.0-8.5	

Chemical and Physical cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Sulphate	mg/L	1	14.70	14.70	14.70	0.02		250	
Suspended Solids	mg/L	1	ND	ND	ND	0.2			
Total Dissolved Solids	mg/L	1	200.00	200.00	200.00			1000	
Total Organic Carbon TOC	mg/L	1	1.20	1.20	1.20	0.1			
Turbidity	NTU	4	0.20	ND	0.05	0.05		5	

Microbiology									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
E. coli	cfu/100mL	4	ND	ND	ND	1	<1		√

Nutrients									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Nitrate (as NO_3)	mg/L	1	4.73	4.73	4.73	0.009	50		√
Nitrite (as NO_2)	mg/L	1	ND	ND	ND	0.007	3		√
Total Phosphorus	mg/L	1	ND	0.00	0.00	0.005			

Plasticizers									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
bis (2-ethylhexyl) adipate	µg/L	1	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	1	ND	ND	ND	2	9		√

Semi Volatile Organic Compounds Organochlorine Pesticides									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Aldrin + Dieldrin	µg/L	1	ND	ND	ND	0.01	0.04		√
Chlordane	µg/L	1	ND	ND	ND	0.01	0.2		√
Lindane	µg/L	1	ND	ND	ND	0.01	2		√
Heptachlor	µg/L	1	ND	ND	ND	0.01			
Heptachlor epoxide	µg/L	1	ND	ND	ND	0.01			
Hexachlorobenzene	µg/L	1	ND	ND	ND	0.1			
Methoxychlor	µg/L	1	ND	ND	ND	0.2	20		√
Permethrin (cis + trans)	µg/L	1	ND	ND	ND	0.2			
DDT + isomers	µg/L	1	ND	ND	ND	0.2	1		√
Procymidone	µg/L	1	ND	ND	ND	0.2	700		√
Organonitrogen Herbicides									
Alachlor	µg/L	2	ND	ND	ND	0.2	20		√
Atrazine	µg/L	2	ND	ND	ND	0.1	100		√
Metolachlor	µg/L	2	ND	ND	ND	0.1	10		√
Molinate	µg/L	2	ND	ND	ND	0.1	7		√
Pendimethalin	µg/L	2	ND	ND	ND	0.2	20		√
Propanil	µg/L	2	ND	ND	ND	0.1			
Simazine	µg/L	2	ND	ND	ND	0.1	2		√
Terbuthylazine	µg/L	3	ND	ND	ND	0.2	8		√
Trifluralin	µg/L	1	ND	ND	ND	0.2	30		√
Organophosphorus Pesticides									
Chlorpyriphos	µg/L	2	ND	ND	ND	0.2	40		√
Diazinon	µg/L	2	ND	ND	ND	0.1			
Pirimiphos methyl	µg/L	1	ND	ND	ND	0.2	100		√

Trace Elements

Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Antimony	mg/L	1	ND	ND	ND	0.001	0.02		√
Lead	mg/L	1	ND	ND	ND	0.0001	0.01		√
Nickel	mg/L	1	ND	ND	ND	0.0001	0.08		√

Trihalomethanes

Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Bromodichloromethane	mg/L	1	ND	ND	ND	0.0001	0.06		√
Bromoform	mg/L	1	ND	ND	ND	0.0001	0.1		√
Chloroform	mg/L	1	ND	ND	ND	0.0001	0.4		√
Dibromochloromethane	mg/L	1	ND	ND	ND	0.0001	0.15		√
THM Sum Ratio		1	0.05	0.05	0.05		1		√

Volatile Organic Compounds

Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
1,1,1-trichloroethane	mg/L	1	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	1	ND	ND	ND	0.0001		0.01	
1,2,4-trichlorobenzene	mg/L	1	ND	ND	ND	0.0001		0.005	
1,2-dichlorobenzene	mg/L	1	ND	ND	ND	0.0001	1.5	0.001	√
1,2-dichloroethane	mg/L	1	ND	ND	ND	0.0001	0.03		√
1,4-dichlorobenzene	mg/L	1	ND	ND	ND	0.0001	0.4	0.0003	√
Benzene	mg/L	1	ND	ND	ND	0.0001	0.01		√
Carbon tetrachloride	mg/L	1	ND	ND	ND	0.0001	0.005		√

Volatile Organic Compounds cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Ethylbenzene	mg/L	1	ND	ND	ND	0.0001	0.3	0.002	√
Xylenes (total)	mg/L	1	ND	ND	ND	0.0001	0.6	0.02	√
Styrene	mg/L	1	ND	ND	ND	0.0001	0.03	0.004	√
Tetrachloroethene	mg/L	1	ND	ND	ND	0.0001	0.05		√
Toluene	mg/L	1	ND	ND	ND	0.0001	0.8	0.03	√
1,2-dichloroethene (cis + trans)	mg/L	1	ND	ND	ND	0.0001	0.06		√

Halo Acetic Acids (HAAs)									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Bromoacetic Acid	mg/L	1	ND	ND	ND	0.001			
Bromochloroacetic Acid	mg/L	1	ND	ND	ND	0.001			
Dibromoacetic Acid	mg/L	1	ND	ND	ND	0.001			
Dichloroacetic Acid	mg/L	1	ND	ND	ND	0.001	0.05		√
Trichloroacetic Acid	mg/L	1	ND	ND	ND	0.001	0.2		√
HAA Sum Ratio		1	0.05	0.05	0.05				

Waitakere WTP Treated Water

Acid Herbicides									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
2,4,5- trichlorophenoxyacetic acid (2,4,5-T)	mg/L	4	ND	ND	ND	0.0001	0.01		√
2,4-Dichlorophenoxyacetic acid (2,4-BD)	mg/L	4	ND	ND	ND	0.0001	0.04		√
4-(2,4-dichlorophenoxyl) butanoic acid (2,4-DB)	mg/L	4	ND	ND	ND	0.0001	0.1		√
Bentazone	mg/L	4	ND	ND	ND	0.0001			
Dichlorprop	mg/L	4	ND	ND	ND	0.0001	0.1		√
MCPA	mg/L	4	ND	ND	ND	0.0001	0.8		√
Mecoprop	mg/L	4	ND	ND	ND	0.0001	0.01		√
Picloram	mg/L	4	ND	ND	ND	0.0001	0.2		√
Triclopyr	mg/L	4	ND	ND	ND	0.0001	0.1		√

Chemical and Physical									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
UV absorbance at 254nm	Abs units	52	0.03	0.01	0.02	0.002			
Alkalinity (Total) as $CaCO_3$	mg/L	52	22.00	11.00	15.54	1			
Aluminium	mg/L	104	0.37	0.01	0.02	0.005	1	0.1	√
Bromate	mg/L	4	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	4	0.02	ND	0.01	0.005			
Calcium	mg/L	4	10.00	9.60	9.85	0.01			
Calcium Hardness	mg/L	4	25.00	24.00	24.75	0.025			
Chlorate	mg/L	4	ND	ND	ND	0.01	0.8		√
Chloride	mg/L	4	22.80	19.70	21.48	0.02		250	
Chlorine Residual	mg/L	353	1.46	0.46	1.03	0.02	5	0.3-1.0	√
Chlorite	mg/L	1	ND	ND	ND	0.005	0.8		√
Colour	Hazen Units	12	ND	ND	ND	5		15	

Chemical and Physical cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Conductivity	mS/m	12	15.00	11.70	13.99	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	49	0.97	ND	0.73	0.02	1.5		√
Iodide	mg/L	4	ND	ND	ND	0.001			
Iron	mg/L	104	0.57	ND	0.01	0.002		0.3	
Magnesium	mg/L	4	2.40	1.70	2.07	0.001			
Magnesium Hardness	mg/L	4	9.80	7.20	8.60	0.0041			
Manganese	mg/L	104	0.03	ND	ND	0.0005	0.4	0.04	√
pH	pH Units	352	8.20	7.20	7.57	0.1		7.0-8.5	
Potassium	mg/L	4	0.85	0.74	0.80	0.05			
Silicon	mg/L	4	13.00	9.20	11.05	0.1			
Sodium	mg/L	4	13.00	9.80	11.70	0.1		200	
Sulphate	mg/L	4	19.70	16.10	17.50	0.02		250	
Suspended Solids	mg/L	12	0.30	ND	0.11	0.2			
Total Hardness	mg/L	4	35.00	32.00	33.50	0.029		200	
Total Organic Carbon TOC	mg/L	12	1.60	1.00	1.31	0.1			
Turbidity	NTU	352	0.65	0.10	0.20	0.05		5	

Microbiology									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
E. coli	cfu/100mL	352	ND	ND	ND	1	<1		√

Nutrients									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Ammonia	mg/L	4	ND	ND	ND	0.005		1.5	
Nitrate (as NO_3)	mg/L	4	0.04	ND	0.04	0.009	50		√
Nitrite (as NO_2)	mg/L	4	ND	ND	ND	0.007	3		√
TKN (Total Kjeldahl Nitrogen)	mg/L	4	ND	ND	ND	0.1			
Total Phosphorus	mg/L	4	0.01	ND	ND	0.005			

Plasticizers									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
bis (2-ethylhexyl) adipate	µg/L	5	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	5	ND	ND	ND	2	9		√

Semi Volatile Organic Compounds Organochlorine Pesticides									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Aldrin + Dieldrin	µg/L	5	ND	ND	ND	0.01	0.04		√
Chlordane	µg/L	5	ND	ND	ND	0.01	0.2		√
Lindane	µg/L	5	ND	ND	ND	0.01	2		√
Heptachlor	µg/L	5	ND	ND	ND	0.01			
Heptachlor epoxide	µg/L	5	ND	ND	ND	0.01			
Hexachlorobenzene	µg/L	5	ND	ND	ND	0.1			
Methoxychlor	µg/L	5	ND	ND	ND	0.2	20		√
Permethrin (cis + trans)	µg/L	5	ND	ND	ND	0.2			
DDT + isomers	µg/L	5	ND	ND	ND	0.2	1		√
Procymidone	µg/L	5	ND	ND	ND	0.2	700		√

Organonitrogen Herbicides									
Alachlor	µg/L	5	ND	ND	ND	0.2	20		√
Atrazine	µg/L	5	ND	ND	ND	0.1	100		√
Metolachlor	µg/L	5	ND	ND	ND	0.1	10		√
Molinate	µg/L	5	ND	ND	ND	0.1	7		√
Pendimethalin	µg/L	5	ND	ND	ND	0.2	20		√
Propanil	µg/L	5	ND	ND	ND	0.1			
Simazine	µg/L	5	ND	ND	ND	0.1	2		√
Terbuthylazine	µg/L	5	ND	ND	ND	0.2	8		√
Trifluralin	µg/L	5	ND	ND	ND	0.2	30		√
Organophosphorus Pesticides									
Chlorpyriphos	µg/L	5	ND	ND	ND	0.2	40		√
Diazinon	µg/L	5	ND	ND	ND	0.1			
Pirimiphos methyl	µg/L	5	ND	ND	ND	0.2	100		√

Trace Elements									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Antimony	mg/L	12	ND	ND	ND	0.001	0.02		√
Arsenic	mg/L	4	ND	ND	0.00008 75	0.0001	0.01		√
Barium	mg/L	4	0.01	ND	ND	0.0002	1.5		√
Boron	mg/L	4	0.01	ND	ND	0.005	2.4		√
Cadmium	mg/L	12	ND	ND	ND	0.00005	0.004		√
Chromium	mg/L	12	ND	ND	ND	0.0001	0.05		√
Copper	mg/L	12	ND	ND	ND	0.0002	2	1	√
Lead	mg/L	12	ND	ND	ND	0.0001	0.01		√
Lithium	mg/L	4	ND	ND	ND	0.0001			
Mercury	mg/L	12	ND	ND	ND	0.00005	0.007		√
Molybdenum	mg/L	4	ND	ND	ND	0.0003			
Nickel	mg/L	12	ND	ND	0.00001	0.0001	0.08		√
Selenium	mg/L	4	ND	ND	ND	0.0005	0.04		√

Trace Elements cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Zinc	mg/L	4	0.04	ND	0.01	0.001		1.5	

Trihalomethanes									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Bromodichloromethane	mg/L	53	0.02	0.01	0.01	0.0001	0.06		√
Bromoform	mg/L	53	ND	ND	ND	0.0001	0.1		√
Chloroform	mg/L	53	0.02	ND	0.01	0.0001	0.4		√
Dibromochloromethane	mg/L	53	0.02	ND	0.01	0.0001	0.15		√
THM Sum Ratio		53	0.46	0.15	0.24		1		√

Volatile Organic Compounds									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
1,1,1-trichloroethane	mg/L	5	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	5	ND	ND	ND	0.0001		0.01	
1,2,4-trichlorobenzene	mg/L	5	ND	ND	ND	0.0001		0.005	
1,2-dichlorobenzene	mg/L	5	ND	ND	ND	0.0001	1.5	0.001	√
1,2-dichloroethane	mg/L	5	ND	ND	ND	0.0001	0.03		√
1,4-dichlorobenzene	mg/L	5	ND	ND	ND	0.0001	0.4	0.0003	√
Benzene	mg/L	5	ND	ND	ND	0.0001	0.01		√
Carbon tetrachloride	mg/L	5	ND	ND	ND	0.0001	0.005		√
Ethylbenzene	mg/L	5	ND	ND	ND	0.0001	0.3	0.002	√
Xylenes (total)	mg/L	5	ND	ND	ND	0.0001	0.6	0.02	√
Styrene	mg/L	5	ND	ND	ND	0.0001	0.03	0.004	√
Tetrachloroethene	mg/L	5	ND	ND	ND	0.0001	0.05		√
Toluene	mg/L	5	ND	ND	ND	0.0001	0.8	0.03	√
1,2-dichloroethene (cis + trans)	mg/L	5	ND	ND	ND	0.0001	0.06		√

Volatile Organic Compounds cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Trichloroethene	mg/L	5	ND	ND	ND	0.0001	0.03		√

Halo Acetic Acids (HAAs)									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Bromoacetic Acid	mg/L	4	ND	ND	ND	0.001			
Bromochloroacetic Acid	mg/L	4	0.01	ND	ND	0.001			
Monochloroacetic Acid	mg/L	4	0.10	0.07	0.08	0.001	0.02		√
Dibromoacetic Acid	mg/L	4	ND	ND	ND	0.001			
Dichloroacetic Acid	mg/L	4	ND	ND	ND	0.001	0.05		√
Trichloroacetic Acid	mg/L	4	ND	ND	ND	0.001	0.2		√
HAA Sum Ratio		4	0.11	0.06	0.09				

Waiuku Road WTP Treated Water

Chemical and Physical									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Alkalinity (Total) as $CaCO_3$	mg/L	4	120.00	120.00	120.00	1			
Aluminium	mg/L	2	ND	ND	ND	0.005	1	0.1	√
Bromate	mg/L	12	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	2	0.07	0.07	0.07	0.005			
Calcium	mg/L	12	32.00	26.00	28.67	0.01			
Calcium Hardness	mg/L	12	79.00	64.00	71.50	0.025			
Chlorate	mg/L	12	0.02	ND	0.01	0.01	0.8		√
Chloride	mg/L	1	32.40	32.40	32.40	0.02		250	
Chlorine Residual	mg/L	105	1.66	0.52	0.90	0.02	5	0.3-1.0	√
Chlorite	mg/L	2	ND	ND	ND	0.005	0.8		√
Colour	Hazen Units	1	ND	ND	ND	5		15	
Conductivity	mS/m	1	33.30	33.30	33.30	0.5			
Cyanide	mg/L	1	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	1	0.06	0.06	0.06	0.02	1.5		√
Iodide	mg/L	1	ND	ND	ND	0.001			
Iron	mg/L	24	0.01	ND	ND	0.002		0.3	
Magnesium	mg/L	12	8.10	6.60	7.48	0.001			
Magnesium Hardness	mg/L	12	33.00	27.00	30.67	0.0041			
Manganese	mg/L	24	ND	ND	ND	0.0005	0.4	0.04	√
pH	pH Units	104	8.30	7.80	7.94	0.1		7.0-8.5	
Potassium	mg/L	1	4.80	4.80	4.80	0.05			
Silicon	mg/L	1	36.00	36.00	36.00	0.1			
Sodium	mg/L	1	25.00	25.00	25.00	0.1		200	
Sulphate	mg/L	1	4.60	4.60	4.60	0.02		250	

Chemical and Physical cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Suspended Solids	mg/L	1	0.20	0.20	0.20	0.2			
Total Dissolved Solids	mg/L	1	220.00	220.00	220.00	15		1000	
Total Hardness	mg/L	12	110.00	91.00	101.67	0.029		200	
Total Organic Carbon TOC	Mg/L	12	1.80	ND	0.68	0.1			
Turbidity	NTU	104	0.80	ND	0.05	0.05		5	

Microbiology									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
E. coli	cfu/100mL	104	ND	ND	ND	1	<1		√

Nutrients									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Ammonia	mg/L	1	ND	ND	ND	0.005		1.5	
Nitrate (as NO_3)	mg/L	1	0.08	0.08	0.08	0.009	50		√
Nitrite (as NO_2)	mg/L	1	ND	ND	ND	0.007	3		√
TKN (Total Kjeldahl Nitrogen)	mg/L	1	ND	ND	ND	0.1			
Total Phosphorus	mg/L	1	0.06	0.06	0.06	0.005			

Plasticizers									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
bis (2-ethylhexyl) adipate	µg/L	1	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	1	ND	ND	ND	2	9		√

Semi Volatile Organic Compounds									
Organochlorine Pesticides									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Aldrin + Dieldrin	µg/L	1	ND	ND	ND	0.01	0.04		√
Chlordane	µg/L	1	ND	ND	ND	0.01	0.2		√
Lindane	µg/L	1	ND	ND	ND	0.01	2		√
Heptachlor	µg/L	1	ND	ND	ND	0.01			
Heptachlor epoxide	µg/L	1	ND	ND	ND	0.01			
Hexachlorobenzene	µg/L	1	ND	ND	ND	0.1			
Methoxychlor	µg/L	1	ND	ND	ND	0.2	20		√
Permethrin (cis + trans)	µg/L	1	ND	ND	ND	0.2			
DDT + isomers	µg/L	1	ND	ND	ND	0.2	1		√
Procymidone	µg/L	1	ND	ND	ND	0.2	700		√
Organonitrogen Herbicides									
Alachlor	µg/L	1	ND	ND	ND	0.2	20		√
Atrazine	µg/L	1	ND	ND	ND	0.1	100		√
Metolachlor	µg/L	1	ND	ND	ND	0.1	10		√
Molinate	µg/L	1	ND	ND	ND	0.1	7		√
Pendimethalin	µg/L	1	ND	ND	ND	0.2	20		√
Propanil	µg/L	1	ND	ND	ND	0.1			
Simazine	µg/L	1	ND	ND	ND	0.1	2		√
Terbuthylazine	µg/L	1	ND	ND	ND	0.2	8		√
Trifluralin	µg/L	1	ND	ND	ND	0.2	30		√
Organophosphorus Pesticides									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Chlorpyriphos	µg/L	1	ND	ND	ND	0.2	40		√
Diazinon	µg/L	1	ND	ND	ND	0.1			
Pirimiphos methyl	µg/L	1	ND	ND	ND	0.2	100		√

Trace Elements									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Antimony	mg/L	1	ND	ND	ND	0.001	0.02		√
Arsenic	mg/L	12	ND	ND	ND	0.0001	0.01		√
Barium	mg/L	1	ND	ND	ND	0.0002	1.5		√
Boron	mg/L	1	0.02	0.02	0.02	0.005	2.4		√
Cadmium	mg/L	1	ND	ND	ND	0.00005	0.004		√
Chromium	mg/L	1	ND	ND	ND	0.0001	0.05		√
Copper	mg/L	1	ND	ND	ND	0.0002	2	1	√
Lead	mg/L	1	ND	ND	ND	0.0001	0.01		√
Lithium	mg/L	1	0.01	0.01	0.01	0.0001			
Mercury	mg/L	1	ND	ND	ND	0.00005	0.007		√
Molybdenum	mg/L	1	ND	ND	ND	0.0003			
Nickel	mg/L	1	ND	ND	ND	0.0001	0.08		√
Selenium	mg/L	1	ND	ND	ND	0.0005	0.04		√
Zinc	mg/L	1	0.01	0.01	0.01	0.001		1.5	

Trihalomethanes									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Bromodichloromethane	mg/L	12	ND	ND	ND	0.0001	0.06		√
Bromoform	mg/L	12	ND	ND	ND	0.0001	0.1		√
Chloroform	mg/L	12	ND	ND	ND	0.0001	0.4		√
Dibromochloromethane	mg/L	12	ND	ND	ND	0.0001	0.15		√
THM Sum Ratio		12	0.07	0.01	0.05		1		√

Volatile Organic Compounds									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
1,1,1-trichloroethane	mg/L	1	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	1	ND	ND	ND	0.0001		0.01	
1,2,4-trichlorobenzene	mg/L	1	ND	ND	ND	0.0001		0.005	
1,2-dichlorobenzene	mg/L	1	ND	ND	ND	0.0001	1.5	0.001	√
1,2-dichloroethane	mg/L	1	ND	ND	ND	0.0001	0.03		√
1,4-dichlorobenzene	mg/L	1	ND	ND	ND	0.0001	0.4	0.0003	√
Benzene	mg/L	1	ND	ND	ND	0.0001	0.01		√
Carbon tetrachloride	mg/L	1	ND	ND	ND	0.0001	0.005		√
Ethylbenzene	mg/L	1	ND	ND	ND	0.0001	0.3	0.002	√
Xylenes (total)	mg/L	1	ND	ND	ND	0.0001	0.6	0.02	√
Styrene	mg/L	1	ND	ND	ND	0.0001	0.03	0.004	√
Tetrachloroethene	mg/L	1	ND	ND	ND	0.0001	0.05		√
Toluene	mg/L	1	ND	ND	ND	0.0001	0.8	0.03	√
1,2-dichloroethene (cis + trans)	mg/L	1	ND	ND	ND	0.0001	0.06		√
Trichloroethene	mg/L	1	ND	ND	ND	0.0001	0.03		√

Warkworth Wells WTP Treated Water

Chemical and Physical									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Alkalinity (Total) as $CaCO_3$	Abs units	4	200.00	190.00	195.00	0.002			
Bromate	mg/L	4	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	1	ND	ND	ND	0.005			
Calcium	mg/L	4	31.00	21.00	26.75	0.01			
Calcium Hardness	mg/L	4	77.00	54.00	67.25	0.01			
Chlorate	mg/L	4	ND	ND	ND	0.025	0.8		√
Chloride	mg/L	1	26.80	26.80	26.80	0.01		250	
Chlorine Residual	mg/L	105	1.67	0.56	1.06	0.02	5	0.3-1.0	√
Chlorite	mg/L	1	ND	ND	ND	0.02	0.8		√
Colour	Hazen Units	1	ND	ND	ND	5		15	
Conductivity	mS/m	1	43.60	43.60	43.60	0.5			
Cyanide	mg/L	1	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	1	0.08	0.08	0.08	0.02	1.5		√
Iodide	mg/L	1	0.01	0.01	0.01	0.001			
Iron	mg/L	108	0.11	ND	0.01	0.002		0.3	
Magnesium	mg/L	4	9.00	6.00	8.15	0.001			
Magnesium Hardness	mg/L	4	37.00	25.00	33.75	0.0041			
Manganese	mg/L	108	0.04	ND	ND	0.0005	0.4	0.04	√
pH	pH unit	105	7.80	7.30	7.58	0.1		7.0-8.5	
Sulphate	mg/L	1	8.62	8.62	8.62	0.02		250	
Suspended Solids	mg/L	1	ND	ND	ND	0.2			
Total Dissolved Solids	mg/L	1	320.00	320.00	320.00	15		1000	
Total Hardness	mg/L	4	110.00	80.00	100.00	0.029		200	
Total Organic Carbon TOC	mg/L	12	4.20	ND	1.73	0.1			
Turbidity	NTU	104	0.25	ND	0.04	0.05		5	

Microbiology									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
E. coli	cfu/100mL	105	ND	ND	ND	1	<1		√

Nutrients									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Ammonia	mg/L	12	ND	ND	ND	0.005		1.5	
Nitrate (as NO_3)	mg/L	1	0.04	0.04	0.04	0.009	50		√
Nitrite (as NO_2)	mg/L	1	ND	ND	ND	0.007	3		√
TKN (Total Kjeldahl Nitrogen)	mg/L	1	ND	ND	ND	0.1			
Total Phosphorus	mg/L	2	0.08	0.07	0.08	0.005			

Semi Volatile Organic Compounds									
Organochlorine Pesticides									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Hexachlorobenzene	µg/L	1	ND	ND	ND	0.1			

Trace Elements									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Arsenic	mg/L	12	ND	ND	ND	0.0001	0.01		√

Trihalomethanes									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Bromodichloromethane	mg/L	53	0.01	ND	0.01	0.0001	0.06		√
Bromoform	mg/L	53	ND	ND	ND	0.0001	0.1		√
Chloroform	mg/L	53	0.01	ND	0.01	0.0001	0.4		√
Dibromochloromethane	mg/L	53	0.01	0.01	0.01	0.0001	0.15		√
THM Sum Ratio		53	0.33	0.12	0.25		1		√

Wellsford WTP Treated Water

Acid Herbicides									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
2-4-5-Trichlorophenoxyacetic acid (2,4-T)	mg/L	16	ND	ND	ND	0.0001	0.01		√
2-4-Dichlorophenoxyacetic acid (2,4-D)	mg/L	16	ND	ND	ND	0.0001	0.04		√
4-(2-4-Dichlorophenoxy) butanoic acid (2,4-DB)	mg/L	16	ND	ND	ND	0.0001	0.1		√
Bentazone	mg/L	16	ND	ND	ND	0.0001			
Dichlorprop	mg/L	16	ND	ND	ND	0.0001	0.1		√
MCPA	mg/L	16	ND	ND	ND	0.0001	0.8		√
Mecoprop (MCPP)	mg/L	16	ND	ND	ND	0.0001	0.01		√
Picloram	mg/L	16	ND	ND	ND	0.0001	0.2		√
Triclopyr	mg/L	16	ND	ND	ND	0.0001	0.1		√

Chemical and Physical									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
UV absorbance at 254nm	Abs units	53	0.04	0.01	0.02	0.002			
Alkalinity (Total) as $CaCO_3$	mg/L	53	49.00	28.00	37.51	1			
Aluminium	mg/L	106	0.03	ND	0.01	0.005	1	0.1	√
Bromate	mg/L	4	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	4	0.05	0.01	0.02	0.005			
Calcium	mg/L	12	13.00	8.50	10.32	0.01			
Calcium Hardness	mg/L	12	32.00	21.00	25.92	0.025			
Chlorate	mg/L	4	ND	ND	ND	0.01	0.8		√
Chloride	mg/L	4	25.50	20.20	23.78	0.02		250	
Chlorine Residual	mg/L	104	1.74	0.57	1.30	0.02	5	0.3-1.0	√
Chlorite	mg/L	1	ND	ND	ND	0.005	0.8		√
Colour	Hazen Units	4	5.00	5.00	5.00	5		15	

Chemical and Physical cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Conductivity	mS/m	12	25.70	18.40	21.80	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	12	0.04	ND	0.02	0.02	1.5		√
Iodide	mg/L	4	ND	ND	ND	0.001			
Iron	mg/L	24	0.01	ND	ND	0.002		0.3	
Magnesium	mg/L	12	4.30	2.50	3.74	0.001			
Magnesium Hardness	mg/L	12	18.00	10.00	15.42	0.0041			
Manganese	mg/L	24	0.04	0.01	0.02	0.0005	0.4	0.04	√
pH	pH Units	104	7.70	7.00	7.22	0.1		7.0-8.5	
Potassium	mg/L	4	3.40	1.40	2.20	0.05			
Silicon	mg/L	4	16.00	11.00	14.25	0.1			
Sodium	mg/L	4	33.00	25.00	29.00	0.1		200	
Sulphate	mg/L	4	43.30	31.30	37.47	0.02		250	
Suspended Solids	mg/L	12	0.25	ND	0.05	0.2			
Total Dissolved Solids	mg/L	12	150.00	110.00	135.00	15		1000	
Total Hardness	mg/L	12	47.00	33.00	40.92	0.029		200	
Total Organic Carbon TOC	mg/L	16	2.30	0.70	1.34				
Turbidity	NTU	104	0.30	ND	0.09	0.05		5	

Microbiology									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
E. coli	cfu/100mL	104	ND	ND	ND	1	<1		√

Nutrients									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Ammonia	mg/L	4	ND	ND	ND	0.005		1.5	
Nitrate (as NO_3)	mg/L	12	2.03	0.44	1.19	0.009	50		√
Nitrite (as NO_2)	mg/L	12	ND	ND	ND	0.007	3		√
TKN (Total Kjeldahl Nitrogen)	mg/L	4	0.12	ND	0.03	0.1			
Total Phosphorus	mg/L	12	ND	ND	ND	0.005			

Plasticizers									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
bis (2-ethylhexyl) adipate	µg/L	12	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	12	ND	ND	ND	2	9		√

Semi Volatile Organic Compounds									
Organochlorine Pesticides									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Aldrin + Dieldrin	µg/L	12	ND	ND	ND	0.01	0.04		√
Chlordane	µg/L	12	ND	ND	ND	0.01	0.2		√
Lindane	µg/L	12	ND	ND	ND	0.01	2		√
Heptachlor	µg/L	12	ND	ND	ND	0.01			
Heptachlor epoxide	µg/L	12	ND	ND	ND	0.01			
Hexachlorobenzene	µg/L	12	ND	ND	ND	0.1			
Methoxychlor	µg/L	12	ND	ND	ND	0.2	20		√
Permethrin (cis + trans)	µg/L	12	ND	ND	ND	0.2			
DDT + isomers	µg/L	12	ND	ND	ND	0.2	1		√
Procymidone	µg/L	12	ND	ND	ND	0.2	700		√

Organonitrogen Herbicides									
Alachlor	µg/L	24	ND	ND	ND	0.2	20		√
Atrazine	µg/L	24	ND	ND	ND	0.1	100		√
Metolachlor	µg/L	24	ND	ND	ND	0.1	10		√
Molinate	µg/L	24	ND	ND	ND	0.1	7		√
Pendimethalin	µg/L	24	ND	ND	ND	0.2	20		√
Propanil	µg/L	24	ND	ND	ND	0.1			
Simazine	µg/L	24	ND	ND	ND	0.1	2		√
Terbuthylazine	µg/L	36	ND	ND	ND	0.2	8		√
Trifluralin	µg/L	12	ND	ND	ND	0.2	30		√

Organophosphorus Pesticides									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Chlorpyriphos	µg/L	24	ND	ND	ND	0.2	40		√
Diazinon	µg/L	24	ND	ND	ND	0.1			
Pirimiphos methyl	µg/L	12	ND	ND	ND	0.2	100		√

Trace Elements									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Antimony	mg/L	12	ND	ND	ND	0.001	0.02		√
Arsenic	mg/L	4	ND	ND	ND	0.0001	0.01		√
Barium	mg/L	4	0.03	0.02	0.02	0.0002	1.5		√
Boron	mg/L	4	0.01	ND	ND	0.005	2.4		√
Cadmium	mg/L	12	ND	ND	ND	0.00005	0.004		√
Chromium	mg/L	12	ND	ND	ND	0.0001	0.05		√
Copper	mg/L	12	ND	ND	ND	0.0002	2	1	√
Lead	mg/L	12	ND	ND	ND	0.0001	0.01		√
Lithium	mg/L	4	ND	ND	ND	0.0001			
Mercury	mg/L	12	ND	ND	ND	0.00005	0.007		√
Molybdenum	mg/L	4	ND	ND	ND	0.0003			

Trace Elements cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Nickel	mg/L	12	ND	ND	ND	0.0001	0.08		√
Selenium	mg/L	4	ND	ND	ND	0.0005	0.04		√
Zinc	mg/L	4	0.01	ND	0.01	0.001		1.5	

Trihalomethanes									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Bromodichloromethane	mg/L	53	0,01	ND	ND	0.0001	0.06		√
Bromoform	mg/L	53	ND	ND	ND	0.0001	0.1		√
Chloroform	mg/L	53	0.02	ND	ND	0.0001	0.4		√
Dibromochloromethane	mg/L	53	0.01	ND	ND	0.0001	0.15		√
THM Sum Ratio		53	0.21	0.03	0.11		1		√

Volatile Organic Compounds									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
1,1,1-trichloroethane	mg/L	12	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	12	ND	ND	ND	0.0001		0.01	
1,2,4-trichlorobenzene	mg/L	12	ND	ND	ND	0.0001		0.005	
1,2-dichlorobenzene	mg/L	12	ND	ND	ND	0.0001	1.5	0.001	√
1,2-dichloroethane	mg/L	12	ND	ND	ND	0.0001	0.03		√
1,4-dichlorobenzene	mg/L	12	ND	ND	ND	0.0001	0.4	0.0003	√
Benzene	mg/L	12	ND	ND	ND	0.0001	0.01		√
Carbon tetrachloride	mg/L	12	ND	ND	ND	0.0001	0.005		√
Ethylbenzene	mg/L	12	ND	ND	ND	0.0001	0.3	0.002	√
Xylenes (total)	mg/L	12	ND	ND	ND	0.0001	0.6	0.02	√
Styrene	mg/L	12	ND	ND	ND	0.0001	0.03	0.004	√
Tetrachloroethene	mg/L	12	ND	ND	ND	0.0001	0.05		√
Toluene	mg/L	12	ND	ND	ND	0.0001	0.8	0.03	√

Volatile Organic Compounds cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
1,2-dichloroethene (cis + trans)	mg/L	12	ND	ND	ND	0.0001	0.06		√
Trichloroethene	mg/L	12	ND	ND	ND	0.0001	0.03		√

Halo Acetic Acids (HAAs)									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Bromoacetic Acid	mg/L	4	ND	ND	ND	0.001			
Bromochloroacetic Acid	mg/L	4	ND	ND	ND	0.001			
Dibromoacetic Acid	mg/L	4	ND	ND	ND	0.001			
Dichloroacetic Acid	mg/L	4	ND	ND	ND	0.001	0.05		√
Trichloroacetic Acid	mg/L	4	ND	ND	ND	0.001	0.2		√
HAA Sum Ratio		4	0.08	0.03	0.06				

Water Quality Compliance Data for the Distribution Network Zones

Anzac Distribution Network Zone

Supplied by: Ardmore Pukekohe, and Waikato WTPs

	Turbidity	*E. coli*	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.10	0.00	0.42	7.30	0.00
Median	0.30	0.00	1.02	7.70	0.00
Average	0.32	0.00	1.00	7.73	0.17
Maximum	1.60	0.00	1.40	8.10	21.00
Count of Results	133	133	172	133	133
Compliance with D3 disinfection criteria			Met		

Auckland Distribution Network Zone

Supplied by: Ardmore, Huia, and Waikato WTPs

	Turbidity	*E. coli*	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.00	0.00	0.11	6.80	0.00
Median	0.20	0.00	0.96	7.60	0.00
Average	0.23	0.00	0.93	7.61	0.02
Maximum	3.50	0.00	1.59	9.00	10.00
Count of Results	686	686	686	698	693
Compliance with D3 disinfection criteria			Met		

Auckland Airport Distribution Network Zone

Supplied by: Ardmore, Huia, and Waikato WTPs

	Turbidity	*E. coli*	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.10	0.00	0.40	7.40	0.00
Median	0.20	0.00	0.94	7.60	0.00
Average	0.25	0.00	0.93	7.64	0.00
Maximum	3.20	0.00	1.48	8.50	0.00
Count of Results	130	130	182	130	130
Compliance with D3 disinfection criteria			Met		

Bombay Distribution Network Zone

Supplied by: Bombay WTP

	Turbidity	*E. coli*	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.00	0.00	0.44	7.10	0.00
Median	0.00	0.00	0.91	7.80	0.00
Average	0.05	0.00	0.90	7.75	0.00
Maximum	0.30	0.00	1.30	8.10	0.00
Count of Results	104	104	156	104	104
Compliance with D3 disinfection criteria			Met		

Buckland Distribution Network Zone

Supplied by: Ardmore, Pukekohe, and Waikato WTPs

	Turbidity	*E. coli*	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.00	0.00	0.51	7.60	0.00
Median	0.15	0.00	1.03	7.90	0.00
Average	0.21	0.00	1.02	7.92	0.00
Maximum	1.60	0.00	1.45	8.20	0.00
Count of Results	117	117	156	117	117

Compliance with D3 disinfection criteria			Met		

Central Business District Distribution Network Zone

Supplied by: Ardmore, Huia, and Waikato WTPs

	Turbidity	*E. coli*	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.10	0.00	0.21	7.20	0.00
Median	0.20	0.00	0.77	7.70	0.00
Average	0.26	0.00	0.74	7.76	0.35
Maximum	3.30	0.00	1.27	8.80	80.00
Count of Results	230	230	243	230	230

Compliance with D3 disinfection criteria			Met		

Clarks / Waiau Beach Distribution Network Zone

Supplied by: Ardmore, Pukekohe, and Waikato WTPs

	Turbidity	*E. coli*	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.15	0.00	0.48	7.50	0.00
Median	0.30	0.00	0.93	7.80	0.00
Average	0.32	0.00	0.94	7.76	0.00
Maximum	3.40	0.00	1.40	8.00	0.00
Count of Results	117	117	156	117	117

Compliance with D3 disinfection criteria			Met		

East Tāmaki / Botany Distribution Network Zone

Supplied by: Ardmore and Waikato WTPs

	Turbidity	*E. coli*	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.10	0.00	0.59	7.20	0.00
Median	0.20	0.00	1.05	7.60	0.00
Average	0.23	0.00	1.03	7.59	0.00
Maximum	3.20	0.00	1.38	7.90	0.00
Count of Results	263	263	316	263	263

Compliance with D3 disinfection criteria			Met		

Glenbrook Beach Distribution Network Zone

Supplied by: Ardmore, Pukekohe, and Waikato WTPs

	Turbidity	*E. coli*	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.10	0.00	0.41	7.40	0.00
Median	0.30	0.00	0.81	7.70	0.00
Average	0.32	0.00	0.82	7.75	0.00
Maximum	3.30	0.00	1.28	8.00	0.00
Count of Results	117	117	156	117	117

Compliance with D3 disinfection criteria			Met		

Glen Eden / New Lynn Distribution Network Zone

Supplied by: Ardmore, Huia, Waikato, and Waitakere WTPs

	Turbidity	*E. coli*	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.00	0.00	0.23	6.80	0.00
Median	0.20	0.00	0.89	7.50	0.00
Average	0.41	0.00	0.87	7.53	0.00
Maximum	20.00	0.00	1.34	8.00	1.00
Count of Results	284	284	363	284	284

Compliance with D3 disinfection criteria			Met		

HBC / Waiwera Distribution Network Zone

Supplied by: Ardmore, Huia, Waikato, and Waitakere WTPs

	Turbidity	*E. coli*	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.00	0.00	0.41	7.30	0.00
Median	0.20	0.00	1.03	7.70	0.00
Average	0.32	0.00	1.00	7.82	0.00
Maximum	9.90	0.00	1.53	9.00	0.00
Count of Results	185	185	211	185	185
Compliance with D3 disinfection criteria			Met		

Helensville / Parakai Distribution Network Zone

Supplied by: Helensville WTP

	Turbidity	*E. coli*	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.00	0.00	0.32	6.80	0.00
Median	0.10	0.00	0.81	7.50	0.00
Average	0.13	0.00	0.80	7.51	0.01
Maximum	2.60	0.00	1.41	7.90	1.00
Count of Results	142	142	211	142	142
Compliance with D3 disinfection criteria			Met		

Henderson Distribution Network Zone

Supplied by: Ardmore, Huia, and Waikato WTPs

	Turbidity	*E. coli*	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.10	0.00	0.21	6.80	0.00
Median	0.20	0.00	0.99	7.50	0.00
Average	0.22	0.00	0.94	7.51	0.25
Maximum	1.20	0.00	1.31	8.30	46.00
Count of Results	432	432	432	432	432
Compliance with D3 disinfection criteria			Met		

High Head Distribution Network Zone

Supplied by: Ardmore and Waikato WTPs

	Turbidity	*E. coli*	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.00	0.00	0.04	6.70	0.00
Median	0.20	0.00	0.91	7.60	0.00
Average	0.18	0.00	0.88	7.53	0.80
Maximum	0.50	1.00	1.36	8.00	80.00
Count of Results	229	229	229	229	229
Compliance with D3 disinfection criteria		Not met*	Not met**		

Comments:

**Not met for microbiological compliance due to one E. coli exceedance identified in September.*
***Not met for FAC compliance due to one result below 0.1 mg/L identified in February.*

The E. coli of 1.0 MPN/100mL was reported to Taumata Arowai immediately after Laboratory notification received. Watercare responded to E. coli transgression by carrying out immediate full-bacto re-sampling within the distribution zone for three consecutive days and conducting Sanitary Survey on Day 1. All monitoring results showed negative for E. coli. Watercare also responded to low FAC result in a timely manner providing high degree of confidence that water disinfection was not compromised. Based on the investigation and review of the WTP and network performance water continued to be safe and did not pose public health risk.

Watercare demonstrated responding to the low FAC results in a timely manner providing high degree of confidence that water disinfection was not compromised in the distribution zone. Based on the investigation and review of the WTP and network performance water continued to be safe and did not pose public health risk.

Hillsborough Distribution Network Zone

Supplied by: Ardmore, Huia, and Waikato WTPs

	Turbidity	*E. coli*	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.00	0.00	0.30	7.30	0.00
Median	0.20	0.00	0.95	7.60	0.00
Average	0.24	0.07	0.93	7.66	0.01
Maximum	1.80	21.00*	1.59	8.50	2.00
Count of Results	302	302	302	302	302

Compliance with D3 disinfection criteria		Not met*			

Comments:
**Not met for microbiological compliance due to one E. coli exceedance detected in April.*

The E. coli of 21.0 MPN/100mL was reported to Taumata Arowai immediately after Laboratory notification received. Watercare responded to E. coli transgression by carrying out immediate full-bacto re-sampling within the distribution zone for four consecutive days and conducting Sanitary Survey on Day 1. All monitoring results showed negative for E. coli.

Watercare undertook investigation into E. coli transgression in a timely manner providing high degree of confidence that water disinfection was not compromised. Based on the investigation and review of the WTP and network performance water continued to be safe and did not pose public health risk.

Hilltop Distribution Network Zone

Supplied by: Ardmore, Pukekohe, and Waikato WTPs

	Turbidity	*E. coli*	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.10	0.00	0.25	7.50	0.00
Median	0.30	0.00	0.81	7.80	0.00
Average	0.29	0.00	0.75	7.79	0.00
Maximum	0.55	0.00	1.14	8.20	0.00
Count of Results	118	118	157	118	118

Compliance with D3 disinfection criteria			Met		

Howick / Pakuranga Distribution Network Zone

Supplied by: Ardmore, and Waikato WTPs

	Turbidity	*E. coli*	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.00	0.00	0.45	7.30	0.00
Median	0.20	0.00	0.97	7.60	0.00
Average	0.22	0.00	0.95	7.66	0.00
Maximum	5.50	0.00	1.37	8.20	0.00
Count of Results	445	445	445	444	445
Compliance with D3 disinfection criteria			Met		

Huia Village Distribution Network Zone

Supplied by: Huia Village WTP

	Turbidity	*E. coli*	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100mL	mg/L	pH unit	MPN/100 mL
Minimum	0.00	0.00	0.17	7.20	0.00
Median	0.00	0.00	1.21	7.60	0.00
Average	0.09	0.00	1.17	7.64	0.02
Maximum	1.10	0.00	1.55	8.10	1.00
Count of Results	121	121	147	121	121
Compliance with D3 disinfection criteria			Met		

Kitchener Distribution Network Zone

Supplied by: Ardmore, Pukekohe, and Waikato WTPs

	Turbidity	*E. coli*	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100mL	mg/L	pH unit	MPN/100mL
Minimum	0.00	0.00	0.50	7.30	0.00
Median	0.20	0.00	1.13	7.90	0.00
Average	0.21	0.00	1.12	7.83	0.00
Maximum	1.00	0.00	1.87	8.20	0.00
Count of Results	146	146	235	146	146

Compliance with D3 disinfection criteria			Met		

Laingholm Distribution Network Zone

Supplied by: Huia WTP

	Turbidity	*E. coli*	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100mL	mg/L	pH unit	MPN/100 mL
Minimum	0.00	0.00	0.17	6.60	0.00
Median	0.20	0.00	0.71	7.60	0.00
Average	0.21	0.00	0.69	7.62	0.16
Maximum	0.75	0.00	1.34	8.30	22.00
Count of Results	134	134	161	134	134

Compliance with D3 disinfection criteria			Met		

Māngere Distribution Network Zone

Supplied by: Ardmore, and Waikato WTPs

	Turbidity	*E. coli*	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.10	0.00	0.46	6.60	0.00
Median	0.20	0.00	1.01	7.60	0.00
Average	0.22	0.00	0.96	7.60	0.00
Maximum	2.20	0.00	1.32	8.20	1.00
Count of Results	316	316	342	316	316
Compliance with D3 disinfection criteria			Met		

Manurewa Distribution Network Zone

Supplied by: Ardmore, and Waikato WTPs

	Turbidity	*E. coli*	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.15	0.00	0.48	7.30	0.00
Median	0.25	0.00	0.94	7.70	0.00
Average	0.29	0.00	0.94	7.66	0.00
Maximum	4.00	0.00	1.67	8.00	0.00
Count of Results	313	313	339	313	313
Compliance with D3 disinfection criteria			Met		

Maungawhau Distribution Network Zone

Supplied by: Ardmore, Huia, and Waikato WTPs

	Turbidity	*E. coli*	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.00	0.00	0.37	7.30	0.00
Median	0.20	0.00	0.81	7.60	0.00
Average	0.24	0.00	0.80	7.56	0.01
Maximum	2.60	0.00	1.75	8.20	4.00
Count of Results	293	293	293	293	293
Compliance with D3 disinfection criteria			Met		

Montana Distribution Network Zone

Supplied by: Huia WTP

	Turbidity	*E. coli*	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.00	0.00	0.08	7.20	0.00
Median	0.20	0.00	0.69	7.40	0.00
Average	0.21	0.00	0.68	7.52	0.01
Maximum	1.30	0.00	1.50	8.40	2.00
Count of Results	135	135	175	135	135
Compliance with D3 disinfection criteria			Not met*		

Comments:

**Not met due to one result of FAC below 0.1 mg/L requirement in April.*

Watercare undertook proactive re-sampling after low FAC results were detected in a timely manner providing high degree of confidence that water disinfection was not compromised. Based on the investigation and review of the WTP and network performance water continued to be safe and did not pose public health risk.

Mt Hobson Distribution Network Zone

Supplied by: Ardmore, and Waikato WTPs

	Turbidity	*E. coli*	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.10	0.00	0.09	7.00	0.00
Median	0.20	0.00	0.64	7.70	0.00
Average	0.28	0.00	0.64	7.65	0.03
Maximum	6.10	0.00	1.15	8.10	2.00
Count of Results	257	257	257	257	257

Compliance with D3 disinfection criteria			Not met*		

Comments:
**Not met due to one result in January where FAC was below 0.1 mg/L requirement.*

Watercare responded to the low FAC result in a timely manner providing high degree of confidence that water disinfection was not compromised. Based on the investigation and review of the WTP and network performance water continued to be safe and did not pose public health risk.

Muriwai Distribution Network Zone

Supplied by: Muriwai WTP

	Turbidity	*E. coli*	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.00	0.00	0.59	7.20	0.00
Median	0.10	0.00	0.99	7.50	0.00
Average	0.09	0.00	0.99	7.53	0.00
Maximum	0.50	0.00	1.31	8.00	0.00
Count of Results	107	107	160	107	107

Compliance with D3 disinfection criteria			Met		

North Shore South Distribution Network Zone

Supplied by: Ardmore, and Waikato WTPs

	Turbidity	*E. coli*	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.00	0.00	0.15	7.00	0.00
Median	0.20	0.00	0.80	7.70	0.00
Average	0.22	0.00	0.78	7.73	0.09
Maximum	1.40	0.00	1.25	9.40	38.00
Count of Results	467	467	467	467	467
Compliance with D3 disinfection criteria			Met		

North Shore West Distribution Network Zone

Supplied by: Ardmore, Huia, and Waikato WTPs

	Turbidity	*E. coli*	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.10	0.00	0.05	7.20	0.00
Median	0.20	0.00	0.92	7.50	0.00
Average	0.21	0.00	0.91	7.53	0.01
Maximum	1.50	0.00	1.54	8.40	1.00
.5Count of Results	450	450	476	450	450
Compliance with D3 disinfection criteria			Not met*		

Comments:
**Not met due to one result in April where FAC was below 0.1 mg/L requirement.*

Watercare responded to the low FAC result in a timely manner providing high degree of confidence that water disinfection was not compromised. Based on the investigation and review of the WTP and network performance water continued to be safe and did not pose public health risk.

Onehunga Distribution Network Zone

Supplied by: Ardmore, and Waikato WTPs

	Turbidity	*E. coli*	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.00	0.00	0.10	7.10	0.00
Median	0.20	0.00	0.86	7.55	0.00
Average	0.26	0.00	0.82	7.53	0.00
Maximum	1.40	0.00	1.30	7.80	0.00
Count of Results	212	212	264	212	212
Compliance with D3 disinfection criteria			Met		

Oratia Distribution Network Zone

Supplied by: Ardmore, Huia, Waikato, and Waitakere WTPs

	Turbidity	*E. coli*	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.15	0.00	0.15	7.40	0.00
Median	0.20	0.00	0.65	8.00	0.00
Average	0.23	0.00	0.64	8.15	0.04
Maximum	0.95	0.00	1.36	9.20	3.00
Count of Results	138	138	164	138	138
Compliance with D3 disinfection criteria			Met		

Otahuhu Distribution Network Zone

Supplied by: Ardmore, and Waikato WTPs

	Turbidity	*E. coli*	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.10	0.00	0.67	7.30	0.00
Median	0.20	0.00	1.03	7.60	0.00
Average	0.35	0.00	1.02	7.61	0.03
Maximum	7.30	0.00	1.49	7.90	3.00
Count of Results	192	192	218	192	192

Compliance with D3 disinfection criteria			Met		

Otara / Papatoetoe / Manukau Central Distribution Network Zone

Supplied by: Ardmore, and Waikato WTPs

	Turbidity	*E. coli*	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.10	0.00	0.45	7.30	0.00
Median	0.20	0.00	1.07	7.60	0.00
Average	0.27	0.00	1.04	7.60	0.00
Maximum	6.60	0.00	1.33	8.30	0.00
Count of Results	325	325	364	325	325

Compliance with D3 disinfection criteria			Met		

Patumahoe Distribution Network Zone

Supplied by: Ardmore, Pukekohe, and Waikato WTPs

	Turbidity	*E. coli*	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.15	0.00	0.42	7.40	0.00
Median	0.30	0.00	0.93	7.70	0.00
Average	0.31	0.00	0.94	7.69	0.00
Maximum	0.65	0.00	1.32	7.90	0.00
Count of Results	130	130	169	130	130

Compliance with D3 disinfection criteria			Met		

Snells / Algies Distribution Network Zone

Supplied by: Snells / Algies WTPs

	Turbidity	*E. coli*	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.00	0.00	0.48	8.20	0.00
Median	0.00	0.00	1.22	8.30	0.00
Average	0.04	0.00	1.21	8.30	0.00
Maximum	0.75	0.00	1.73	8.40	0.00
Count of Results	105	105	157	105	105
Compliance with D3 disinfection criteria			Met		

Swanson Distribution Network Zone

Supplied by: Ardmore, Huia, Waikato, and Waitakere WTPs

	Turbidity	*E. coli*	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.10	0.00	0.24	7.10	0.00
Median	0.20	0.00	0.89	7.70	0.00
Average	0.22	0.00	0.84	7.76	0.00
Maximum	0.90	0.00	1.41	8.60	0.00
Count of Results	143	143	169	143	143
Compliance with D3 disinfection criteria			Met		

Te Henga Distribution Network Zone

Supplied by: Ardmore, Huia, Waikato, and Waitakere WTPs

	Turbidity	*E. coli*	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.15	0.00	0.15	7.40	0.00
Median	0.20	0.00	0.75	8.00	0.00
Average	0.21	0.00	0.71	7.99	0.00
Maximum	0.45	0.00	1.25	8.60	0.00
Count of Results	137	137	163	137	137

Compliance with D3 disinfection criteria			Met		

Waiuku Distribution Network Zone

Supplied by: Cornwall Road, Victoria Avenue, and Waiuku Road WTPs

	Turbidity	*E. coli*	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.00	0.00	0.47	7.80	0.00
Median	0.00	0.00	0.97	8.00	0.00
Average	0.04	0.00	0.99	8.02	0.00
Maximum	0.20	0.00	1.41	8.40	0.00
Count of Results	117	117	156	117	117

Compliance with D3 disinfection criteria			Met		

Warkworth Distribution Network Zone

Supplied by: Warkworth Wells WTP

	Turbidity	*E. coli*	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.00	0.00	0.04	7.30	0.00
Median	0.00	0.00	0.79	7.60	0.00
Average	0.03	0.00	0.71	7.62	1.24
Maximum	0.35	0.00	1.40	7.90	200.00
Count of Results	119	120	171	119	120

Compliance with D3 disinfection criteria			Not met*		

Comments:
**Not met due to one result in September where the FAC result was less than 0.10 mg/L. Watercare reported that the service reservoir was re-chlorinated. A total of 40 results were reported for the Jul-Sep period.*

Watercare demonstrated responding to the low FAC results in a timely manner providing high degree of confidence that water disinfection was not compromised in the distribution zone. Based on the investigation and review of the WTP and network performance water continued to be safe and did not pose public health risk.

Wellsford/Te Hana Distribution Network Zone

Supplied by: Wellsford WTP

	Turbidity	*E. coli*	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.00	0.00	0.05	7.10	0.00
Median	0.15	0.00	0.61	7.30	0.00
Average	0.16	0.00	0.62	7.26	0.00
Maximum	1.60	0.00	1.30	7.60	0.00
Count of Results	105	105	157	105	105

Compliance with D3 disinfection criteria			Not met*		

Comments:
**Not met due two results in November where the FAC result was less than 0.1 mg/L. Only 75% of results in November 2025 were greater than 0.2 mg/L where 85% is the minimum requirement. A total of 39 results were reported for the Oct-Dec period.*

Watercare demonstrated responding to the low FAC results in a timely manner providing high degree of confidence that water disinfection was not compromised in the distribution zone. Based on the investigation and review of the WTP and network performance water continued to be safe and did not pose public health risk.

Whenuapai Distribution Network Zone

Supplied by: Ardmore, Huia, Waikato, and Waitakere WTPs

	Turbidity	*E. coli*	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.10	0.00	0.05	7.10	0.00
Median	0.20	0.00	0.88	7.50	0.00
Average	0.21	0.03	0.85	7.57	0.16
Maximum	0.55	12.00	1.38	8.80	44.00
Count of Results	238	239	251	238	239

compliance with D3 disinfection criteria		Not met*	Not met**		

Comments:

**Not met for microbiological compliance due to one E. coli exceedance detected in February 2026.*

The E. coli of 12.0 MPN/100mL was reported to Taumata Arowai immediately after Laboratory notification was received. Watercare responded to E. coli transgression by carrying out immediate full-bacto re-sampling within the distribution zone for three consecutive days and conducting Sanitary Survey on Day 1. All monitoring results showed negative for E. coli.

***Not met for FAC compliance due to one result below 0.1 mg/L and two results below 0.2 mg/L in October alone even though 85.7% of FAC samples over 0.2 mg/L achieved in October. A total of 57 FAC samples were reported during the Oct-Dec period.*

Watercare demonstrated responding to the low FAC results in a timely manner providing high degree of confidence that water disinfection was not compromised in the distribution zone. Based on the investigation and review of the WTP and network performance water continued to be safe and did not pose public health risk.