Annual Water Quality Report

July 2023 – June 2024

Watercare

An Auckland Council Organisation

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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 theDrinking-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
Snells / Algies	Snells / Algies
Victoria Avenue	Waiuku

Water Treatment Plant	Distribution Network Zones Supplied
Waikato	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 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	52	0.019	0.007	0.012	0.002			
Alkalinity (Total) as $CaCO_3$	mg/L	58	21	13	17	1			
Aluminium	mg/L	52	0.029	0.018	0.022	0.005	1	0.1	√
Bromate	mg/L	13	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	13	0.03	0.02	0.03	0.005			
Calcium	mg/L	16	8.6	6.4	7.4	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	16	21	16	18	0.025			
Chlorate	mg/L	13	ND	ND	ND	0.01	0.8		√
Chloride	mg/L	13	13.80	12.50	13.20	0.02		250	
Chlorine Residual	mg/L	328	1.63	0.73	1.35	0.02	5	0.3-1.0	√
Chlorite	mg/L	13	ND	ND	ND	0.005	0.8		√
Colour	Hazen Units	13	ND	ND	ND	5		15	
Conductivity	mS/m	13	10.9	10.3	10.6	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.02	0.6		√
Fluoride	mg/L	52	0.9	0.1	0.9	0.02	1.5		√
Iodide	mg/L	4	0.005	ND	0.003	0.001			
Iron	mg/L	52	0.097	0.008	0.017	0.001		0.3	
Magnesium	mg/L	16	1.60	1.40	1.41	0.001			
Magnesium Hardness	mg/L	16	6.500	4.800	5.725	0.0041			
Manganese	mg/L	52	0.004	0.001	0.002	0.0005	0.4	0.04-0.10	√
pH	pH Units	328	8.1	5.4	7.3	0.1		7.0-8.5	
Potassium	mg/L	4	1.1	1.0	1.0	0.05			
Silicon	mg/L	4	15.0	14.0	14.5	0.1			
Sodium	mg/L	4	8.60	7.90	8.35	0.1		200	
Sulphate	mg/L	4	11.70	2.30	8.15	0.02		250	
Suspended Solids	mg/L	13	0.3	0.2	0.2	0.2			
Total Hardness	mg/L	16	27.00	22.00	24.06	0.029		200	
Total Organic Carbon TOC	mg/L	13	0.90	0.60	0.79	0.1			
Turbidity	NTU	322	0.4	0.1	0.1	0.05		5	

Microbiology

Component Name	Units	Number of Samples	Max	Min	Average	Detection Limits	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Confirmed Cryptosporidium per 100L	cysts/100 L	4	ND	ND	ND	1	<1		√
Confirmed Giardia per 100L	cysts/100 L	4	ND	ND	ND	1	<1		√
E. coli	cfu/100mL	328	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	
Dissolved Reactive Phosphorus	mg/L	4	0.006	0.004	0.005	0.005			
Nitrate (as NO_3)	mg/L	4	0.585	0.328	0.417	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	0.006	ND	0.003	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		√

Polycyclic Aromatic Hydrocarbons

Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Benzo(a)pyrene	µg/L	4	ND	ND	ND	0.1	0.7		√

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	20	ND	ND	ND	0.001	0.02		√
Arsenic	mg/L	4	0.0002	0.0002	0.0002	0.0001	0.01		√
Barium	mg/L	4	0.0081	0.0057	0.0069	0.0002	1.5		√
Boron	mg/L	16	0.017	0.011	0.013	0.005	2.4		√
Cadmium	mg/L	20	ND	ND	ND	0.00005	0.004		√
Chromium	mg/L	20	0.0018	ND	0.0001	0.0001	0.05		√
Copper	mg/L	20	0.0004	ND	0.0002	0.0002	2	1	√
Lead	mg/L	20	ND	ND	ND	0.0001	0.01		√
Lithium	mg/L	4	0.0005	ND	0.0003	0.0001			
Mercury	mg/L	18	0.00006	ND	ND	0.00005	0.007		√
Molybdenum	mg/L	4	ND	ND	ND	0.0003			
Nickel	mg/L	20	0.0001	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	52	0.0067	0.0023	0.0043	0.0001	0.06		√
Bromoform	mg/L	52	0.0015	ND	0.0009	0.0001	0.1		√
Chloroform	mg/L	52	0.0075	ND	0.0037	0.0001	0.4		√
Dibromochloromethane	mg/L	52	0.0079	0.0024	0.0044	0.0001	0.15		√
THM Sum Ratio		52	0.19	0.05	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	√
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	13	0.0016	ND	0.0001	0.0005			
Bromochloroacetic Acid	mg/L	13	0.0037	ND	0.0015	0.0005			
Monochloroacetic Acid	mg/L	13	ND	ND	ND	0.0005	0.02		√
Dibromoacetic Acid	mg/L	13	0.0026	ND	0.0010	0.0005			
Dichloroacetic Acid	mg/L	13	0.0031	ND	0.0014	0.0005	0.05		√
Trichloroacetic Acid	mg/L	13	0.0020	ND	0.0007	0.0005	0.2		√
HAA Sum Ratio		13	0.07	ND	0.03				

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	0.018	ND	0.011	0.002			
Alkalinity (Total) as $CaCO_3$	mg/L	51	20	13	17	1			
Aluminium	mg/L	51	0.150	0.018	0.034	0.005	1	0.1	√
Bromate	mg/L	13	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	13	0.04	0.02	0.03	0.005			
Calcium	mg/L	16	8.7	6.5	7.3	0.01			
Calcium Hardness	mg/L	16	22	16	19	0.025			
Chlorate	mg/L	13	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	13	13.80	12.40	13.15	0.02		250	
Chlorine Residual	mg/L	326	1.70	0.76	1.32	0.02	5	0.3-1.0	√
Chlorite	mg/L	13	ND	ND	ND	0.005	0.8		√
Colour	Hazen Units	13	5	ND	3	5		15	
Conductivity	mS/m	13	10.9	10.3	10.6	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	51	1.0	0.8	0.9	0.02	1.5		√
Iodide	mg/L	4	0.005	ND	0.003	0.001			
Iron	mg/L	51	0.280	ND	0.040	0.002		0.3	
Magnesium	mg/L	16	1.50	ND	1.08	0.001			
Magnesium Hardness	mg/L	16	6.300	ND	5.160	0.0041			
Manganese	mg/L	51	0.004	0.001	0.002	0.0005	0.4	0.04	√
pH	pH unit	326	8.0	6.9	7.5	0.1		7.0-8.5	
Potassium	mg/L	4	1.1	1.0	1.1	0.05			
Silicon	mg/L	4	15.0	14.0	14.5	0.1			
Sodium	mg/L	4	8.7	7.9	8.4	0.1		200	
Sulphate	mg/L	4	11.50	7.71	9.58	0.02		250	
Suspended Solids	mg/L	13	0.8	ND	0.3	0.2			
Total Hardness	mg/L	16	27.00	22.00	23.81	0.029		200	
Total Organic Carbon	mg/L	13	1.1	0.6	0.9	0.1			
Turbidity	NTU	326	0.6	0.1	0.2	0.05		5	

Microbiology									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Confirmed Cryptosporidium per 100L	cysts/100 L	2	ND	ND	ND	1	<1		√
Confirmed Giardia per 100L	cysts/100 L	2	ND	ND	ND	1	<1		√
E. coli	cfu/100mL	326	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	
Dissolved Reactive Phosphorus	mg/L	4	0.005	0.003	0.004	0.005			
Nitrate (as NO_3)	mg/L	4	0.589	0.332	0.423	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	0.005	ND	0.003	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		√

Polycyclic Aromatic Hydrocarbons									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Benzo(a)pyrene	µg/L	4	ND	ND	ND	0.1	0.7		√

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		√
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	20	ND	ND	ND	0.001	0.02		√
Arsenic	mg/L	4	0.0002	0.0002	0.0002	0.0001	0.01		√
Barium	mg/L	4	0.008	0.006	0.007	0.0002	1.5		√
Boron	mg/L	16	0.015	0.011	0.013	0.005	2.4		√
Cadmium	mg/L	20	ND	ND	ND	0.00005	0.004		√
Chromium	mg/L	20	0.0007	ND	0.0001	0.0001	0.05		√
Copper	mg/L	20	0.0004	ND	0.0002	0.0002	2	1	√
Lead	mg/L	20	ND	ND	ND	0.0001	0.01		√
Lithium	mg/L	4	0.0005	ND	0.0002	0.0001			
Mercury	mg/L	20	0.00009	ND	ND	0.00005	0.007		√
Molybdenum	mg/L	4	ND	ND	ND	0.0003			
Nickel	mg/L	20	0.0002	ND	0.0001	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	0.0072	ND	0.0038	0.0001	0.06		√
Bromoform	mg/L	51	0.0016	ND	0.0009	0.0001	0.1		√
Chloroform	mg/L	51	0.0077	ND	0.0036	0.0001	0.4		√
Dibromochloromethane	mg/L	51	0.0075	0.0020	0.0040	0.0001	0.15		√
THM Sum Ratio		51	0.18	0.02	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	13	0.0020	ND	0.0002	0.0005			
Bromochloroacetic Acid	mg/L	13	0.0028	ND	0.0013	0.0005			
Monochloroacetic Acid	mg/L	13	ND	ND	ND	0.0005	0.02		√
Dibromoacetic Acid	mg/L	13	0.0024	ND	0.0008	0.0005			
Dichloroacetic Acid	mg/L	13	0.0025	ND	0.0012	0.0005	0.05		√
Trichloroacetic Acid	mg/L	13	0.0017	ND	0.0007	0.0005	0.2		√
HAA Sum Ratio		13	0.06	ND	0.03				

Ardmore WTP B2 Block Treated Water

** The Ardmore WTP B2 Block was isolated for upgrades on 22 June 2020. This treated water tank remained isolated until the end of the reporting period specified in the report. Compliance monitoring sampling was not undertaken while the treated water tank was isolated.*

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	13	ND	ND	ND	0.0001	0.01		√
2,4-Dichlorophenoxyacetic acid (2,4-D)	mg/L	13	ND	ND	ND	0.0001	0.04		√
4-(2,4-dichlorophenoxyl) butanoic acid (2,4-DB)	mg/L	13	ND	ND	ND	0.0001	0.1		√
Bentazone	mg/L	13	ND	ND	ND	0.0001			
Dichlorprop	mg/L	13	ND	ND	ND	0.0001	0.1		√
MCPA	mg/L	13	ND	ND	ND	0.0001	0.002		√
Mecoprop	mg/L	13	ND	ND	ND	0.0001	0.01		√
Picloram	mg/L	13	ND	ND	ND	0.0001	0.2		√
Triclopyr	mg/L	13	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	13	0.010	ND	0.006	0.002			
Alkalinity (Total) as $CaCO_3$	mg/L	10	78	63	69.4	1			
Aluminium	mg/L	5	0.006	ND	0.004	0.005	1	0.1	√
Bromate	mg/L	4	ND	ND	ND	0.01	0.01		√
Bromide	mg/L	4	0.03	0.02	0.03	0.005			
Calcium	mg/L	5	14.0	13.0	13.5	0.01			
Calcium Hardness	mg/L	5	36	31	34	0.025			
Chlorate	mg/L	4	ND	ND	ND	0.01	0.8		√
Chloride	mg/L	5	96.90	83.90	91.10	0.02		250	
Chlorine Residual	mg/L	104	1.43	0.50	0.93	0.02	5	0.3-1.0	√
Chlorite	mg/L	4	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**
Colour	Hazen Units	1	ND	ND	ND	5		15	
Conductivity	mS/m	1	45.8	45.8	45.8	0.5			
Cyanide	mg/L	1	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	4	0.1	ND	ND	0.02	1.5		√
Iodide	mg/L	1	0.009	0.009	0.009	0.001			
Iron	mg/L	5	0.003	ND	0.002	0.002		0.3	
Magnesium	mg/L	5	15.00	12.00	13.67	0.001			
Magnesium Hardness	mg/L	5	60.0	51.0	56.6	0.0041			
Manganese	mg/L	5	ND	ND	ND	0.0005	0.4	0.04	√
pH	pH Units	104	8.0	6.7	7.4	0.1		7.0-8.5	
Potassium	mg/L	1	1.6	1.6	1.6	0.05			
Silicon	mg/L	1	44.0	44.0	44.0	0.1			
Sodium	mg/L	1	49.0	49.0	49.0	0.1		200	
Sulphate	mg/L	1	0.05	0.05	0.05	0.02		250	
Suspended Solids	mg/L	1	ND	ND	ND	0.2			
Total Dissolved Solids	mg/L	1	250	250	250	15		1000	
Total Hardness	mg/L	5	95.00	82.00	90.20	0.029		200	
Total Organic Carbon TOC	mg/L	13	0.1	ND	0.1	0.1			
Turbidity	NTU	104	0.4	ND	0.1	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	
Dissolved Reactive Phosphorus	mg/L	1	0.007	0.007	0.007	0.005			
Nitrate (as NO_3)	mg/L	53	4.827	1.935	3.038	0.009	50		√
Nitrite (as NO_2)	mg/L	5	ND	ND	ND	0.007	3		√
TKN (Total Kjeldahl Nitrogen)	mg/L	1	ND	ND	ND	0.1			
Total Phosphorus	mg/L	1	0.008	0.008	0.008	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		√

Polycyclic Aromatic Hydrocarbons

Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Benzo(a)pyrene	µg/L	4	ND	ND	ND	0.1	0.7		√

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			

Organochlorine Pesticides cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
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	1	ND	ND	ND	0.001	0.02		√
Arsenic	mg/L	1	ND	ND	ND	0.0001	0.01		√
Barium	mg/L	1	0.002	0.002	0.002	0.0002	1.5		√
Boron	mg/L	1	0.015	0.015	0.015	0.005	2.4		√
Cadmium	mg/L	5	ND	ND	ND	0.00005	0.004		√

Trace Elements cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Chromium	mg/L	1	ND	ND	ND	0.0001	0.05		√
Copper	mg/L	5	0.012	0.006	0.008	0.0002	2	1	√
Lead	mg/L	1	ND	ND	ND	0.0001	0.01		√
Lithium	mg/L	1	0.0004	0.0004	0.0004	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	0.003	0.003	0.003	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	14	0.0016	ND	0.0008	0.0001	0.06		√
Bromoform	mg/L	14	0.0016	ND	0.0008	0.0001	0.1		√
Chloroform	mg/L	14	0.0028	ND	0.0018	0.0001	0.4		√
Dibromochloromethane	mg/L	14	0.0034	ND	0.0012	0.0001	0.15		√
THM Sum Ratio		14	0.06	ND	0.02		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		√

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	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	√
Trichloroethene	mg/L	1	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	0.0110	ND	0.0022	0.0005			
Monochloroacetic Acid	mg/L	4	ND	ND	ND	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	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	ND	ND	ND	0.002			
Alkalinity (Total) as $CaCO_3$	mg/L	10	140	100	128	1			
Aluminium	mg/L	1	ND	ND	ND	0.005	1	0.1	√
Bromate	mg/L	105	0.006	ND	ND	0.005	0.01		√
Bromide	mg/L	105	0.15	0.04	0.10	0.005			
Calcium	mg/L	14	36.0	30.0	32.5	0.010			
Calcium Hardness	mg/L	14	89	75	81	0.025			
Chlorate	mg/L	105	0.029	ND	0.002	0.010	0.8		√
Chloride	mg/L	1	34.40	34.40	34.40	0.020		250	
Chlorine Residual	mg/L	104	1.51	0.56	0.98	0.020	5	0.3-1.0	√
Chlorite	mg/L	105	0.006	ND	ND	0.005	0.8		√
Colour	Hazen Units	1	5	5	5	5		15	
Conductivity	mS/m	1	36.7	36.7	36.7	0.500			
Cyanide	mg/L	1	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	1	ND	ND	ND	0.020	1.5		√
Iodide	mg/L	1	0.008	0.008	0.008	0.001			
Iron	mg/L	14	0.003	ND	ND	0.002		0.3	
Magnesium	mg/L	14	11.00	8.80	9.76	0.001			
Magnesium Hardness	mg/L	14	44.0	36.0	40.0	0.004			
Manganese	mg/L	14	ND	ND	ND	0.0005	0.4	0.04	√
pH	pH Units	104	8.1	7.7	7.9	0.100		7.0-8.5	
Potassium	mg/L	1	3.5	3.5	3.5	0.05			
Silicon	mg/L	1	50.0	50.0	50.0	0.100			
Sodium	mg/L	1	21.0	21.0	21.0	0.100		200	
Sulphate	mg/L	1	5.20	5.20	5.20	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	0.3	0.3	0.3				
Total Dissolved Solids	mg/L	1	210	210	210	15.000		1000	
Total Hardness	mg/L	13	130.00	110.00	121.54	0.029		200	
Turbidity	NTU	104	0.4	ND	0.1	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	
Dissolved Reactive Phosphorus	mg/L	1	0.045	0.045	0.045	0.005			
Nitrate (as NO_3)	mg/L	1	0.199	0.199	0.199	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	0.042	0.042	0.042	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		√

Polycyclic Aromatic Hydrocarbons									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Benzo(a)pyrene	µg/L	1	ND	ND	ND	0.1	0.7		√

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	13	0.0046	0.0041	0.0043	0.0001	0.01		√
Barium	mg/L	1	0.0005	0.0005	0.0005	0.0002	1.5		√
Boron	mg/L	1	0.024	0.024	0.024	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	0.0025	0.0025	0.0025	0.0002	2	1	√
Lead	mg/L	1	0.0001	0.0001	0.0001	0.0001	0.01		√
Lithium	mg/L	1	0.0097	0.0097	0.0097	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	0.002	0.002	0.002	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	13	ND	ND	ND	0.0001	0.06		√
Bromoform	mg/L	13	0.0001	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	13	ND	ND	ND	0.0001	0.4		√
Dibromochloromethane	mg/L	13	ND	ND	ND	0.0001	0.15		√
THM Sum Ratio		13	ND	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 UV Filtered

Chemical and Physical									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Bromate	mg/L	4	0.010	ND	0.002	0.005	0.01		√
Bromide	mg/L	4	0.10	ND	0.04	0.005			
Chlorate*	mg/L	4	25.30	2.76	14.01	0.01	0.8		
Chlorite	mg/L	4	ND	ND	ND	0.005	0.8		√
Chlorine Residual	mg/L	5	1.71	0.33	0.85		5	0.3-1.0	√
pH	pH Units	5	8.3	8.1	8.2	0.100		7.0-8.5	
Turbidity	NTU	5	0.4	0.1	0.2				

Chemical and Physical									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
E. coli	cfu/100mL	5	ND	ND	ND	1	<1		√

** 11 Cornwall WTP was only available for contingency of Waiuku water supply during this reporting period. Waiuku community is supplied by four WTPs. The 11 Cornwall Rd WTP mostly run for instrumentation checks and although there were two events of chlorate exceedances for this interim WTP, the events were notified to Taumata Arowai but were later ruled out as non-events as the plant has not supplied water to the network during one event and during another event plant supplied 0.2% of water in the network in 24 hrs.*

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	13	ND	ND	ND	0.0001	0.01		√
2,4-Dichlorophenoxyacetic acid (2,4-D)	mg/L	13	ND	ND	ND	0.0001	0.04		√
4-(2,4-dichlorophenoxyl) butanoic acid (2,4-DB)	mg/L	13	ND	ND	ND	0.0001	0.1		√
Bentazone	mg/L	13	ND	ND	ND	0.0001			
Dichlorprop	mg/L	13	ND	ND	ND	0.0001	0.1		√
MCPA	mg/L	13	ND	ND	ND	0.0001	0.8		√
Mecoprop	mg/L	13	ND	ND	ND	0.0001	0.01		√
Picloram	mg/L	13	ND	ND	ND	0.0001	0.2		√
Triclopyr	mg/L	13	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	0.028	ND	0.014	0.002			
Alkalinity (Total) as $CaCO_3$	mg/L	58	95	25	65	1			
Aluminium	mg/L	54	0.018	0.009	0.013	0.005	1	0.1	√
Bromate	mg/L	4	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	4	0.18	0.11	0.14	0.005			
Calcium	mg/L	16	19.0	8.2	13.7	0.01			
Calcium Hardness	mg/L	16	48	20	35	0.025			
Chlorate	mg/L	4	ND	ND	ND	0.01	0.8		√
Chloride	mg/L	4	62.30	51.00	54.30	0.02		250	
Chlorine Residual	mg/L	103	1.97	0.74	1.29	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	4	ND	ND	ND	5		15	
Conductivity	mS/m	16	54.7	28.0	43.4	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	13	0.1	ND	ND	0.02	1.5		√
Iodide	mg/L	4	0.005	0.003	0.004	0.001			
Iron	mg/L	16	0.062	ND	0.009	0.002		0.3	
Magnesium	mg/L	16	16.00	5.50	11.19	0.001			
Magnesium Hardness	mg/L	16	67.000	23.000	48.133	0.0041			
Manganese	mg/L	16	0.016	0.003	0.007	0.0005	0.4	0.04	√
pH	pH Units	107	7.5	6.8	7.2	0.1		7.0-8.5	
Potassium	mg/L	4	3.7	2.7	3.1	0.05			
Silicon	mg/L	4	27.0	21.0	23.8	0.1			
Sodium	mg/L	4	53.0	41.0	46.8	0.1		200	
Sulphate	mg/L	4	64.40	46.70	54.20	0.02		250	
Suspended Solids	mg/L	13	0.3	ND	0.2	0.2			
Total Dissolved Solids	mg/L	13	300	160	242	15		1000	
Total Hardness	mg/L	16	110.00	43.00	79.46	0.029		200	
Total Organic Carbon TOC	mg/L	52	1.8	0.4	1.1	0.1			
Turbidity	NTU	103	0.8	ND	0.2	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	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	4	ND	ND	ND	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	13	0.006	0.002	0.004	0.005			
Nitrate (as NO_3)	mg/L	16	0.664	0.120	0.297	0.009	50		√
Nitrite (as NO_2)	mg/L	16	0.020	ND	0.001	0.007	3		√
TKN (Total Kjeldahl Nitrogen)	mg/L	4	ND	ND	ND	0.1			
Total Phosphorus	mg/L	13	0.008	ND	0.002	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	13	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	13	0.003	ND	0.002	2	9		√

Polycyclic Aromatic Hydrocarbons									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Benzo(a)pyrene	µg/L	13	ND	ND	ND	0.1	0.7		√

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	13	ND	ND	ND	0.01	0.04		√
Chlordane	µg/L	13	ND	ND	ND	0.01	0.2		√
Lindane	µg/L	13	ND	ND	ND	0.01	2		√
Heptachlor	µg/L	13	ND	ND	ND	0.01			
Heptachlor epoxide	µg/L	13	ND	ND	ND	0.01			

Organochlorine Pesticides cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Hexachlorobenzene	µg/L	13	ND	ND	ND	0.1			
Methoxychlor	µg/L	13	ND	ND	ND	0.2	20		√
Permethrin (cis + trans)	µg/L	13	ND	ND	ND	0.2			
DDT + isomers	µg/L	13	ND	ND	ND	0.2	1		√
Procymidone	µg/L	13	ND	ND	ND	0.2	700		√
Organonitrogen Herbicides									
Alachlor	µg/L	13	ND	ND	ND	0.2	20		√
Atrazine	µg/L	13	ND	ND	ND	0.1	100		√
Metolachlor	µg/L	13	ND	ND	ND	0.1	10		√
Molinate	µg/L	13	ND	ND	ND	0.1	7		√
Pendimethalin	µg/L	13	ND	ND	ND	0.2	20		√
Propanil	µg/L	13	ND	ND	ND	0.1			
Simazine	µg/L	13	ND	ND	ND	0.1	2		√
Terbuthylazine	µg/L	13	ND	ND	ND	0.2	8		√
Trifluralin	µg/L	13	ND	ND	ND	0.2	30		√
Organophosphorus Pesticides									
Chlorpyriphos	µg/L	13	ND	ND	ND	0.2	40		√
Diazinon	µg/L	13	ND	ND	ND	0.1			
Pirimiphos methyl	µg/L	13	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	20	ND	ND	ND	0.001	0.02		√
Arsenic	mg/L	18	0.0004	ND	0.0002	0.0001	0.01		√
Barium	mg/L	4	0.032	0.017	0.023	0.0002	1.5		√
Boron	mg/L	4	0.033	0.028	0.031	0.005	2.4		√
Cadmium	mg/L	20	ND	ND	ND	0.00005	0.004		√

Trace Elements cont.									
Chromium	mg/L	20	0.0008	ND	0.0006	0.0001	0.05		√
Copper	mg/L	20	0.0003	ND	0.0002	0.0002	2	1	√
Lead	mg/L	20	ND	ND	ND	0.0001	0.01		√
Lithium	mg/L	4	0.0033	0.0017	0.0025	0.0001			
Mercury	mg/L	20	ND	ND	ND	0.00005	0.007		√
Molybdenum	mg/L	4	ND	ND	ND	0.0003			
Nickel	mg/L	20	0.0008	0.0002	0.0004	0.0001	0.08		√
Selenium	mg/L	4	ND	ND	ND	0.0005	0.04		√
Zinc	mg/L	4	0.0023	ND	0.0012	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	0.0068	ND	0.0023	0.0001	0.06		√
Bromoform	mg/L	56	0.0097	ND	0.0045	0.0001	0.1		√
Chloroform	mg/L	56	0.0027	ND	0.0010	0.0001	0.4		√
Dibromochloromethane	mg/L	56	0.0130	0.0008	0.0058	0.0001	0.15		√
THM Sum Ratio		56	0.25	0.02	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	13	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	13	ND	ND	ND	0.0001		0.01	
1,2,4-trichlorobenzene	mg/L	13	ND	ND	ND	0.0001		0.005	
1,2-dichlorobenzene	mg/L	13	ND	ND	ND	0.0001	1.5	0.001	√
1,2-dichloroethane	mg/L	13	ND	ND	ND	0.0001	0.03		√
1,4-dichlorobenzene	mg/L	13	ND	ND	ND	0.0001	0.4	0.0003	√
Benzene	mg/L	13	ND	ND	ND	0.0001	0.01		√
Carbon tetrachloride	mg/L	13	ND	ND	ND	0.0001	0.005		√
Ethylbenzene	mg/L	13	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	13	ND	ND	ND	0.0001	0.6	0.02	√
Styrene	mg/L	13	ND	ND	ND	0.0001	0.03	0.004	√
Tetrachloroethene	mg/L	13	ND	ND	ND	0.0001	0.05		√
Toluene	mg/L	13	ND	ND	ND	0.0001	0.8	0.03	√
1,2-dichloroethene (cis + trans)	mg/L	13	ND	ND	ND	0.0001	0.06		√
Trichloroethene	mg/L	13	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	0.0032	ND	0.0008	0.001			
Monochloroacetic Acid	mg/L	4	ND	ND	ND	0.001	0.02		√
Dibromoacetic Acid	mg/L	4	0.0062	0.0029	0.0043	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	ND	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	53	0.018	ND	0.011	0.002			
Alkalinity (Total) as $CaCO_3$	mg/L	59	29	15	22	1			
Aluminium	mg/L	54	0.110	ND	0.008	0.005	1	0.1	√
Bromate	mg/L	53	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	53	0.055	0.011	0.042	0.005			
Calcium	mg/L	16	5.0	3.5	4.4	0.01			
Calcium Hardness	mg/L	16	13	9	11	0.025			
Chlorate	mg/L	53	0.17	0.04	0.09	0.01	0.8		√
Chloride	mg/L	4	34.30	27.10	29.80	0.02		250	
Chlorine Residual	mg/L	322	1.7	0.56	1.21	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	53	ND	ND	ND	0.005	0.8		√
Colour	Hazen Units	13	5	ND	0.4	5		15	
Conductivity	mS/m	13	17.6	14.3	15.6	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	13	ND	ND	ND	0.02	1.5		√
Iodide	mg/L	4	0.004	0.004	0.004	0.001			
Iron	mg/L	16	0.018	0.003	0.007	0.001		0.3	
Magnesium	mg/L	16	3.20	2.30	2.84	0.001			
Magnesium Hardness	mg/L	16	13.000	9.400	11.669	0.0041			
Manganese	mg/L	16	0.017	ND	0.004	0.0005	0.4	0.04	√
pH	pH Units	322	7.9	6.9	7.5	0.1		7.0-8.5	
Potassium	mg/L	4	1.00	0.94	0.97	0.05			
Silicon	mg/L	4	15	13	14	0.1			
Sodium	mg/L	4	19.0	16.0	17.8	0.1		200	
Sulphate	mg/L	4	6.29	5.19	5.76	0.02		250	
Suspended Solids	mg/L	13	0.45	ND	0.11	0.2			
Total Hardness	mg/L	16	26.0	18.0	22.6	0.1		200	
Total Organic Carbon TOC	mg/L	13	1.0	0.4	0.7	0.1			
Turbidity	NTU	322	0.45	ND	0.12	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	322	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	
Dissolved Reactive Phosphorus	mg/L	4	0.004	0.002	0.003	0.005			
Nitrate (as NO_3)	mg/L	4	0.335	0.173	0.254	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	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	4	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	4	ND	ND	ND	2	9		√

Polycyclic Aromatic Hydrocarbons									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Benzo(a)pyrene	µg/L	4	ND	ND	ND	0.1	0.7		√

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		√
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 DWQAR**	**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	20	ND	ND	ND	0.001	0.02		√
Arsenic	mg/L	4	ND	ND	ND	0.0001	0.01		√
Barium	mg/L	4	0.004	0.003	0.003	0.0002	1.5		√
Boron	mg/L	4	0.018	0.014	0.016	0.005	2.4		√
Cadmium	mg/L	20	ND	ND	ND	0.00005	0.004		√
Chromium	mg/L	20	0.0008	ND	0.0001	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	20	0.0004	ND	0.0001	0.0002	2	1	√
Lead	mg/L	20	ND	ND	ND	0.0001	0.01		√
Lithium	mg/L	4	0.0004	ND	0.0001	0.0001			
Mercury	mg/L	16	ND	ND	ND	0.00005	0.007		√
Molybdenum	mg/L	4	ND	ND	ND	0.0003			
Nickel	mg/L	20	0.0011	ND	0.0001	0.0001	0.08		√
Selenium	mg/L	4	ND	ND	ND	0.0005	0.04		√
Zinc	mg/L	4	0.006	0.003	0.005	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	16	0.0081	ND	0.0027	0.0001	0.06		√
Bromoform	mg/L	16	0.0076	ND	0.0024	0.0001	0.1		√
Chloroform	mg/L	16	0.0028	ND	0.0009	0.0001	0.4		√
Dibromochloromethane	mg/L	16	0.0180	ND	0.0060	0.0001	0.15		√
THM Sum Ratio		16	0.34	ND	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	16	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	16	ND	ND	ND	0.0001		0.01	
1,2,4-trichlorobenzene	mg/L	16	ND	ND	ND	0.0001		0.005	
1,2-dichlorobenzene	mg/L	16	ND	ND	ND	0.0001	1.5	0.001	√
1,2-dichloroethane	mg/L	16	ND	ND	ND	0.0001	0.03		√
1,4-dichlorobenzene	mg/L	16	ND	ND	ND	0.0001	0.4	0.0003	√
Benzene	mg/L	16	ND	ND	ND	0.0001	0.01		√
Carbon tetrachloride	mg/L	16	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	16	ND	ND	ND	0.0001	0.3	0.002	√
Xylenes (total)	mg/L	16	ND	ND	ND	0.0001	0.6	0.02	√
Styrene	mg/L	16	ND	ND	ND	0.0001	0.03	0.004	√
Tetrachloroethene	mg/L	16	ND	ND	ND	0.0001	0.05		√
Toluene	mg/L	16	ND	ND	ND	0.0001	0.8	0.03	√
1,2-dichloroethene (cis + trans)	mg/L	16	ND	ND	ND	0.0001	0.06		√
Trichloroethene	mg/L	16	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	0.002	ND	0.001	0.001			
Monochloroacetic Acid	mg/L	4	ND	ND	ND	0.001	0.02		√
Dibromoacetic Acid	mg/L	4	0.003	ND	0.002	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	ND	ND	ND				

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	52	0.029	0.010	0.018	0.002			
Alkalinity (Total) as $CaCO_3$	mg/L	58	26	13	18	1			
Aluminium	mg/L	52	0.036	0.018	0.023	0.005	1	0.1	√
Bromate	mg/L	4	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	4	0.07	0.03	0.04	0.005			
Calcium	mg/L	16	10.0	7.4	9.0	0.01			
Calcium Hardness	mg/L	16	26	18	23	0.025			
Chlorate	mg/L	4	ND	ND	ND	0.01	0.8		√
Chloride	mg/L	4	21.20	19.90	20.40	0.02		250	
Chlorine Residual	mg/L	324	1.51	0.71	1.15	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	13	8	ND	2	5		15	
Conductivity	mS/m	13	16.3	13.6	14.6	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	52	0.9	ND	0.5	0.02	1.5		√
Iodide	mg/L	4	0.007	ND	0.004	0.001			
Iron	mg/L	52	0.036	0.008	0.018	0.001		0.3	
Magnesium	mg/L	16	3.10	2.20	2.54	0.001			
Magnesium Hardness	mg/L	16	13.000	9.000	10.419	0.0041			
Manganese	mg/L	52	0.018	0.002	0.006	0.0005	0.4	0.04	√
pH	pH Units	323	7.9	6.8	7.3	0.1		7.0-8.5	
Potassium	mg/L	4	1.0	0.9	0.9	0.05			
Silicon	mg/L	4	15.0	12.0	13.0	0.1			
Sodium	mg/L	4	12.0	11.0	11.8	0.1		200	
Sulphate	mg/L	4	18.30	14.00	15.98	0.02		250	
Suspended Solids	mg/L	13	0.4	ND	0.1	0.2			
Total Hardness	mg/L	16	38.00	28.00	32.88	0.029		200	
Total Organic Carbon TOC	mg/L	13	1.3	0.8	1.1	0.1			
Turbidity	NTU	246	1.3	0.1	0.2	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	323	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	
Dissolved Reactive Phosphorus	mg/L	4	0.005	0.003	0.005	0.005			
Nitrate (as NO_3)	mg/L	4	0.334	0.164	0.217	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	0.006	ND	0.004	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	4	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	4	ND	ND	ND	2	9		√

Polyciclic Aromatic Hydrocarbons									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Benzo[a]pyrene	µg/L	4	ND	ND	ND	0.1	0.7		

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 Total	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			

Organochlorine Pesticides cont.									
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	20	ND	ND	ND	0.001	0.02		√
Arsenic	mg/L	4	0.0001	ND	0.0001	0.0001	0.01		√
Barium	mg/L	4	0.0041	0.0029	0.0036	0.0002	1.5		√
Boron	mg/L	4	0.017	0.015	0.016	0.005	2.4		√
Cadmium	mg/L	20	ND	ND	ND	0.00005	0.004		√
Chromium	mg/L	20	0.0008	ND	0.0002	0.0001	0.05		√
Copper	mg/L	20	0.0006	ND	0.0003	0.0002	2	1	√
Lead	mg/L	20	ND	ND	ND	0.0001	0.01		√
Lithium	mg/L	4	0.0004	ND	0.0001	0.0001			
Mercury	mg/L	16	0.00008	ND	0.00001	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	20	0.0017	ND	0.0004	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	0.0097	0.0024	0.0054	0.0001	0.06		√
Bromoform	mg/L	52	0.0029	ND	0.0012	0.0001	0.1		√
Chloroform	mg/L	52	0.0082	ND	0.0032	0.0001	0.4		√
Dibromochloromethane	mg/L	52	0.0130	0.0037	0.0068	0.0001	0.15		√
THM Sum Ratio		52	0.27	0.07	0.16		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	16	0.003	ND	ND	0.001			
Bromochloroacetic Acid	mg/L	16	0.008	ND	0.002	0.001			
Monochloroacetic Acid	mg/L	16	0.007	ND	ND	0.001	0.02		√
Dibromoacetic Acid	mg/L	16	0.006	ND	0.002	0.001			
Dichloroacetic Acid	mg/L	16	0.010	ND	0.002	0.001	0.05		√
Trichloroacetic Acid	mg/L	16	0.004	ND	0.001	0.001	0.2		√
HAA Sum Ratio		16	0.57	ND	0.15				

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	2	ND	ND	ND	0.0001	0.01		√
2,4-Dichlorophenoxyacetic acid (2,4-BD)	mg/L	2	ND	ND	ND	0.0001	0.04		√
4-(2,4-dichlorophenoxyl) butanoic acid (2,4-DB)	mg/L	2	ND	ND	ND	0.0001	0.1		√
Bentazone	mg/L	2	ND	ND	ND	0.0001			
Dichlorprop	mg/L	2	ND	ND	ND	0.0001	0.1		√
MCPA	mg/L	2	ND	ND	ND	0.0001	0.8		√
Mecoprop (MCPP)	mg/L	2	ND	ND	ND	0.0001	0.01		√
Picloram	mg/L	2	ND	ND	ND	0.0001	0.2		√
Triclopyr	mg/L	2	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	9	0.013	ND	0.0063	0.002			
Alkalinity (Total) as $CaCO_3$	mg/L	8	91	82	86	1			
Bromate	mg/L	33	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	33	0.37	0.17	0.28	0.005			
Calcium	mg/L	2	12.0	9.3	10.6	0.01			
Calcium Hardness	mg/L	2	29	23	26	0.025			
Chlorate	mg/L	33	0.33	0.08	0.18	0.01	0.8		√
Chlorine Residual	mg/L	61	1.40	0.44	0.91	0.02	5	0.3-1.0	√
Chlorite	mg/L	33	ND	ND	ND	0.005	0.8		√
Colour	Hazen Units	2	ND	ND	ND	5		15	
Iron	mg/L	2	ND	ND	ND	0.002		0.3	
Magnesium	mg/L	2	9.50	8.30	9.05	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	2	40.0	34.0	37.0	0.0041			
Manganese	mg/L	2	ND	ND	ND	0.0005	0.4	0.04	√
pH	pH Units	61	7.6	6.5	7.2	0.1		7.0-8.5	
Suspended Solids	mg/L	2	1.1	ND	0.6	0.2			
Total Dissolved Solids	mg/L	2	350	330	340	15		1000	
Total Hardness	mg/L	2	70.00	58.00	64.00	0.029		200	
Total Organic Carbon TOC	mg/L	9	0.4	ND	0.2	0.1			
Turbidity	NTU	61	0.4	ND	0.1	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	61	ND	ND	ND	1	<1		√

Nutrients									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**	**MAV DWSNZ2022**
Ammonia	mg/L	2	ND	ND	ND	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	2	0.050	0.047	0.049	0.005			
Nitrate (as NO_3)	mg/L	2	1.962	1.922	1.942	0.009	50		√
Nitrite (as NO_2)	mg/L	2	ND	ND	ND	0.007	3		√
TKN (Total Kjeldahl Nitrogen)	mg/L	2	0.196	ND	0.098	0.1			
Total Phosphorus	mg/L	2	0.060	0.055	0.057	0.005			

Trace Elements									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Arsenic	mg/L	2	0.0001	ND	0.0001	0.0001	0.01		√
Cadmium	mg/L	2	ND	ND	ND	0.00005	0.004		√
Copper	mg/L	2	0.0010	0.0008	0.0009	0.0002	2	1	√
Lead	mg/L	2	ND	ND	ND	0.0001	0.01		√
Nickel	mg/L	2	0.0003	0.0002	0.0002	0.0001	0.08		√
Zinc	mg/L	2	0.002	0.002	0.002	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	9	0.0045	ND	0.0023	0.0001	0.06		√
Bromoform	mg/L	9	0.0034	0.0010	0.0018	0.0001	0.1		√
Chloroform	mg/L	9	0.0038	ND	0.0019	0.0001	0.4		√
Dibromochloromethane	mg/L	9	0.0061	ND	0.0013	0.0001	0.15		√
THM Sum Ratio		9	0.16	0.01	0.06		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	2	ND	ND	ND	0.0005			
Bromochloroacetic Acid	mg/L	2	ND	ND	ND	0.0005			
Monochloroacetic Acid	mg/L	2	ND	ND	ND	0.0005	0.02		√
Dibromoacetic Acid	mg/L	2	ND	ND	ND	0.0005			
Dichloroacetic Acid	mg/L	2	ND	ND	ND	0.0005	0.05		√
Trichloroacetic Acid	mg/L	2	ND	ND	ND	0.0005	0.2		√
HAA Sum Ratio		2	ND	ND	ND				

Papakura WTP Treated Water

This WTP supplies Veolia Water Papakura Distribution Networks. Papakura WTP went into service on 31st August 2023.

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	21	ND	ND	ND	0.0001	0.01		√
2,4-Dichlorophenoxyacetic acid (2,4-BD)	mg/L	21	ND	ND	ND	0.0001	0.04		√
4-(2,4-dichlorophenoxyl) butanoic acid (2,4-DB)	mg/L	21	ND	ND	ND	0.0001	0.1		√
Bentazone	mg/L	21	ND	ND	ND	0.0001			
Dichlorprop	mg/L	21	ND	ND	ND	0.0001	0.1		√
MCPA	mg/L	21	ND	ND	ND	0.0001	0.8		√
Mecoprop	mg/L	21	ND	ND	ND	0.0001	0.01		√
Picloram	mg/L	21	ND	ND	ND	0.0001	0.2		√
Triclopyr	mg/L	21	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	42	0.023	ND	0.005	0.002			
Alkalinity (Total) as $CaCO_3$	mg/L	48	25	14	19	1			
Aluminium	mg/L	42	0.017	ND	0.006	0.005	1	0.1	√
Bromate	mg/L	42	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	42	0.07	0.03	0.05	0.005			
Calcium	mg/L	11	3.3	2.8	3.0	0.01			
Calcium Hardness	mg/L	11	8	7	7	0.025			
Chlorate	mg/L	42	0.22	0.07	0.11	0.01	0.8		√
Chloride	mg/L	11	25.6	22.9	24.1	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	261	1.63	0.65	1.14	0.02	5	0.3-1.0	√
Chlorite	mg/L	42	ND	ND	ND	0.005	0.8		√
Colour	Hazen Units	11	ND	ND	ND	5		15	
Conductivity	mS/m	11	14.0	12.5	13.4	0.5			
Cyanide	mg/L	3	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	43	0.9	0.7	0.8	0.02	1.5		√
Iodide	mg/L	3	0.004	0.001	0.003	0.001			
Iron	mg/L	42	0.010	ND	0.001	0.002		0.3	
Magnesium	mg/L	11	1.80	1.40	1.57	0.001			
Magnesium Hardness	mg/L	11	7.500	5.700	6.445	0.0041			
Manganese	mg/L	11	0.008	0.001	0.003	0.0005	0.4	0.04	√
pH	pH Units	261	8.2	6.6	7.5	0.1		7.0-8.5	
Potassium	mg/L	11	1.7	1.3	1.6	0.05			
Silicon	mg/L	2	12.0	11.0	11.5	0.1			
Sodium	mg/L	2	19.0	18.0	18.5	0.1		200	
Sulphate	mg/L	11	5.01	4.40	4.67	0.02		250	
Suspended Solids	mg/L	11	0.4	ND	ND	0.2			
Total Dissolved Solids	mg/L	11	120	77	93			1000	
Total Hardness	mg/L	11	16.00	12.00	13.91	0.029		200	
Total Organic Carbon TOC	mg/L	11	1.9	ND	0.6	0.1			
Turbidity	NTU	261	0.6	ND	0.1	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	261	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	
Dissolved Reactive Phosphorus	mg/L	11	0.004	0.002	0.003	0.005			
Nitrate (as NO3)	mg/L	11	1.506	0.651	1.193	0.009	50		√
Nitrite (as NO2	mg/L	11	ND	ND	ND	0.007	3		√
TKN (Total Kjeldahl Nitrogen)	mg/L	11	0.147	ND	0.013	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	21	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	21	ND	ND	ND	2	9		√

Polycyclic Aromatic Hydrocarbons									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Benzo(a)pyrene	µg/L	21	ND	ND	ND	0.1	0.7		√

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	21	ND	ND	ND	0.01	0.04		√
Chlordane	µg/L	21	ND	ND	ND	0.01	0.2		√
Lindane	µg/L	21	ND	ND	ND	0.01	2		√
Heptachlor	µg/L	21	ND	ND	ND	0.01			
Heptachlor epoxide	µg/L	21	ND	ND	ND	0.01			
Hexachlorobenzene	µg/L	21	ND	ND	ND	0.1			

Organochlorine Pesticides cont.									
Units	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**	**Units**
Methoxychlor	µg/L	21	ND	ND	ND	0.2	20		√
Permethrin (cis + trans)	µg/L	21	ND	ND	ND	0.2			
DDT + isomers	µg/L	21	ND	ND	ND	0.2	1		√
Procymidone	µg/L	21	ND	ND	ND	0.2	700		√
Organonitrogen Herbicides									
Alachlor	µg/L	21	ND	ND	ND	0.2	20		√
Atrazine	µg/L	21	ND	ND	ND	0.1	100		√
Metolachlor	µg/L	21	ND	ND	ND	0.1	10		√
Molinate	µg/L	21	ND	ND	ND	0.1	7		√
Pendimethalin	µg/L	21	ND	ND	ND	0.2	20		√
Propanil	µg/L	21	ND	ND	ND	0.1			
Simazine	µg/L	21	ND	ND	ND	0.1	2		√
Terbuthylazine	µg/L	21	ND	ND	ND	0.2	8		√
Trifluralin	µg/L	21	ND	ND	ND	0.2	30		√
Organophosphorus Pesticides									
Chlorpyriphos	µg/L	21	ND	ND	ND	0.2	40		√
Diazinon	µg/L	21	ND	ND	ND	0.1			
Pirimiphos methyl	µg/L	21	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	25	ND	ND	ND	0.001	0.02		√
Arsenic	mg/L	11	0.0003	0.0002	0.0002	0.0001	0.01		√
Barium	mg/L	11	0.016	0.011	0.014	0.0002	1.5		√
Boron	mg/L	2	0.022	0.018	0.020	0.005	2.4		√
Cadmium	mg/L	25	ND	ND	ND	0.00005	0.004		√
Chromium	mg/L	25	0.0006	ND	0.0001	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	25	ND	ND	ND	0.0002	2	1	√
Lead	mg/L	25	ND	ND	ND	0.0001	0.01		√
Lithium	mg/L	2	0.0010	0.0007	0.0008	0.0001			
Mercury	mg/L	25	0.00005	ND	ND	0.00005	0.007		√
Molybdenum	mg/L	2	ND	ND	ND	0.0003			
Nickel	mg/L	25	0.0008	0.0002	0.0003	0.0001	0.08		√
Selenium	mg/L	2	ND	ND	ND	0.0005	0.04		√
Zinc	mg/L	2	0.006	0.003	0.004	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	42	0.0045	ND	0.0018	0.0001	0.06		√
Bromoform	mg/L	42	0.0037	ND	0.0012	0.0001	0.1		√
Chloroform	mg/L	42	0.0100	ND	0.0012	0.0001	0.4		√
Dibromochloromethane	mg/L	42	0.0091	ND	0.0041	0.0001	0.15		√
THM Sum Ratio		42	0.16	ND	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	10	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	10	ND	ND	ND	0.0001		0.01	
1,2,4-trichlorobenzene	mg/L	10	ND	ND	ND	0.0001		0.005	
1,2-dichlorobenzene	mg/L	10	ND	ND	ND	0.0001	1.5	0.001	√
1,2-dichloroethane	mg/L	10	ND	ND	ND	0.0001	0.03		√
1,4-dichlorobenzene	mg/L	10	ND	ND	ND	0.0001	0.4	0.0003	√
Benzene	mg/L	10	ND	ND	ND	0.0001	0.01		√
Carbon tetrachloride	mg/L	10	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	10	ND	ND	ND	0.0001	0.3	0.002	√
Xylenes (total)	mg/L	10	ND	ND	ND	0.0001	0.6	0.02	√
Styrene	mg/L	10	ND	ND	ND	0.0001	0.03	0.004	√
Tetrachloroethene	mg/L	10	ND	ND	ND	0.0001	0.05		√
Toluene	mg/L	10	ND	ND	ND	0.0001	0.8	0.03	√
1,2-dichloroethene (cis + trans)	mg/L	10	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	3	ND	ND	ND	0.001			
Bromochloroacetic Acid	mg/L	3	0.002	ND	0.001	0.001			
Monochloroacetic Acid	mg/L	3	ND	ND	ND	0.001	0.02		√
Dibromoacetic Acid	mg/L	3	0.002	ND	0.001	0.001			
Dichloroacetic Acid	mg/L	3	ND	ND	ND	0.001	0.05		√
Trichloroacetic Acid	mg/L	3	ND	ND	ND	0.001	0.2		√
HAA Sum Ratio		3	ND	ND	ND				

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	0.008	0.008	0.008	0.002			
Alkalinity (Total) as $CaCO_3$	mg/L	10	210	190	200	1			
Aluminium	mg/L	1	ND	ND	ND	0.005	1	0.1	√
Bromate	mg/L	4	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	4	0.19	0.14	0.16	0.005			
Calcium	mg/L	4	4.2	3.9	4.1	0.01			
Calcium Hardness	mg/L	4	10	10	10	0.025			
Chlorate	mg/L	4	ND	ND	ND	0.01	0.8		√
Chloride	mg/L	1	52.00	52.00	52.00	0.02		250	
Chlorine Residual	mg/L	104	1.90	0.37	1.35	0.02	5	0.3-1.0	√
Chlorite	mg/L	4	ND	ND	ND	0.005	0.8		√
Colour	Hazen Units	1	5	5	5	5		15	
Conductivity	mS/m	1	54.8	54.8	54.8	0.5			
Cyanide	mg/L	1	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	1	0.2	0.2	0.2	0.02	1.5		√
Iodide	mg/L	1	0.017	0.017	0.017	0.001			
Iron	mg/L	16	0.008	0.003	0.006	0.002		0.3	
Magnesium	mg/L	4	0.39	0.35	0.36	0.001			
Magnesium Hardness	mg/L	4	1.600	1.400	1.500	0.0041			
Manganese	mg/L	16	0.005	0.001	0.003	0.0005	0.4	0.04	√
pH	pH Units	105	8.4	7.5	8.3	0.1		7.0-8.5	
Potassium	mg/L	1	0.3	0.3	0.3	0.05			
Silicon	mg/L	1	49.0	49.0	49.0	0.1			
Sodium	mg/L	1	120.0	120.0	120.0	0.1		200	
Sulphate	mg/L	1	8.67	8.67	8.67	0.02		250	
Suspended Solids	mg/L	1	0.2	0.2	0.2	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	360	360	360	15			
Total Hardness	mg/L	4	12.00	11.00	11.75	0.029		200	
Total Organic Carbon TOC	mg/L	1	0.4	0.4	0.4	0.1			
Turbidity	NTU	104	0.5	ND	0.1	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	
Dissolved Reactive Phosphorus	mg/L	1	0.097	0.097	0.097	0.005			
Nitrate (as NO_3)	mg/L	1	0.053	0.053	0.053	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	0.108	0.108	0.108	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		√

Polycyclic Aromatic Hydrocarbons									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Benzo(a)pyrene	µg/L	1	ND	ND	ND	0.1	0.7		√

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									
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	16	0.0002	ND	ND	0.0001	0.01		√
Barium	mg/L	1	ND	ND	ND	0.0002	1.5		√
Boron	mg/L	1	0.19	0.19	0.19	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	0.0007	0.0007	0.0007	0.0002	2	1	√
Lead	mg/L	1	ND	ND	ND	0.0001	0.01		√
Lithium	mg/L	1	0.028	0.028	0.028	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	0.002	0.002	0.002	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	14	0.0008	ND	0.0001	0.0001	0.06		√
Bromoform	mg/L	14	0.0025	ND	0.0006	0.0001	0.1		√
Chloroform	mg/L	14	ND	ND	ND	0.0001	0.4		√
Dibromochloromethane	mg/L	14	0.0025	ND	0.0009	0.0001	0.15		√
THM Ratio		14	0.04	ND	0.01		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	10	130	110	127	1			
Aluminium	mg/L	1	ND	ND	ND	0.005	1	0.1	√
Bromate	mg/L	1	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	1	0.10	0.10	0.10	0.005			
Calcium	mg/L	14	33.0	27.0	29.8	0.01			
Calcium Hardness	mg/L	14	83	68	74	0.025			
Chlorate	mg/L	1	ND	ND	ND	0.01	0.8		√
Chloride	mg/L	1	35.10	35.10	35.10	0.02		250	
Chlorine Residual	mg/L	104	1.19	0.42	0.82	0.02	5	0.3-1.0	√
Chlorite	mg/L	1	ND	ND	ND	0.005	0.8		√
Colour	Hazen Units	1	5	5	5	5		15	
Conductivity	mS/m	1	35.8	35.8	35.8	0.5			
Cyanide	mg/L	1	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	1	0.1	0.1	0.1	0.02	1.5		√
Iodide	mg/L	1	0.007	0.007	0.007	0.001			
Iron	mg/L	14	0.004	ND	0.001	0.002		0.3	
Magnesium	mg/L	14	9.80	7.40	9.03	0.001			
Magnesium Hardness	mg/L	14	40.000	31.000	37.143	0.0041			
Manganese	mg/L	14	0.003	ND	0.002	0.0005	0.4	0.04	√
pH	pH Units	104	8.1	7.4	7.9	0.1		7.0-8.5	
Potassium	mg/L	1	4.1	4.1	4.1	0.05			
Silicon	mg/L	1	54.0	54.0	54.1	0.1			
Sodium	mg/L	1	26.0	26.0	26.0	0.1		200	
Sulphate	mg/L	1	5.25	5.25	5.25	0.02		250	
Suspended Solids	mg/L	1	0.8	0.8	0.8	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	250	250	250	15		1000	
Total Hardness	mg/L	14	120.00	98.00	112.00	0.029		200	
Turbidity	NTU	104	0.3	ND	0.1	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	
Dissolved Reactive Phosphorus	mg/L	1	0.054	0.054	0.054	0.005			
Nitrate (as NO_3)	mg/L	1	0.142	0.142	0.142	0.009	50		√
Nitrite (as NO_2)	mg/L	1	ND	ND	ND	0.007	3		√
TKN (Total Kjeldahl Nitrogen)	mg/L	1	0.135	0.135	0.135	0.1			
Total Phosphorus	mg/L	1	0.061	0.061	0.061	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		√

Polycyclic Aromatic Hydrocarbons									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Benzo(a)pyrene	µg/L	1	ND	ND	ND	0.1	0.7		√

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	40	0.0054	0.0038	0.0048	0.0001	0.01		√
Barium	mg/L	1	0.001	0.001	0.001	0.0002	1.5		√
Boron	mg/L	1	0.037	0.037	0.037	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	0.0020	0.0020	0.0020	0.0002	2	1	√
Lead	mg/L	1	0.0003	0.0003	0.0003	0.0001	0.01		√
Lithium	mg/L	1	0.0110	0.0110	0.0110	0.0001			
Mercury	mg/L	1	ND	ND	ND	0.00005	0.007		√
Molybdenum	mg/L	1	0.0003	0.0003	0.0003	0.0003	0		
Nickel	mg/L	1	0.0002	0.0002	0.0002	0.0001	0.08		√
Selenium	mg/L	1	ND	ND	ND	0.0005	0.04		√
Zinc	mg/L	1	0.011	0.011	0.011	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	14	0.0013	ND	0.0009	0.0001	0.06		√
Bromoform	mg/L	14	0.0054	0.0011	0.0030	0.0001	0.1		√
Chloroform	mg/L	14	ND	ND	ND	0.0001	0.4		√
Dibromochloromethane	mg/L	14	0.0047	0.0016	0.0033	0.0001	0.15		√
THM Ratio		14	0.10	0.03	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	26	ND	ND	ND	0.0001	0.01		√
2,4-Dichlorophenoxyacetic acid (2,4-BD)	mg/L	26	ND	ND	ND	0.0001	0.04		√
4-(2,4-dichlorophenoxyl) butanoic acid (2,4-DB)	mg/L	26	ND	ND	ND	0.0001	0.1		√
Bentazone	mg/L	26	ND	ND	ND	0.0001			
Dichlorprop	mg/L	26	ND	ND	ND	0.0001	0.1		√
MCPA	mg/L	26	ND	ND	ND	0.0001	0.8		√
Mecoprop	mg/L	26	ND	ND	ND	0.0001	0.01		√
Picloram	mg/L	26	ND	ND	ND	0.0001	0.2		√
Triclopyr	mg/L	26	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	52	0.035	0.008	0.019	0.002			
Alkalinity (Total) as $CaCO_3$	mg/L	58	65	34	49	1			
Aluminium	mg/L	53	0.081	0.027	0.041	0.005	1	0.1	√
Bromate	mg/L	52	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	52	0.03	0.01	0.02	0.005			
Calcium	mg/L	16	21.0	14.0	17.2	0.01			
Calcium Hardness	mg/L	16	53	36	43	0.025			
Chlorate	mg/L	52	0.14	ND	0.07	0.01	0.8		√
Chloride	mg/L	13	20.90	18.40	19.62	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	326	1.75	0.88	1.41	0.02	5	0.3-1.0	√
Chlorite	mg/L	52	ND	ND	ND	0.005	0.8		√
Colour	Hazen Units	4	ND	ND	ND	5		15	
Conductivity	mS/m	13	23.1	18.0	21.8	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	52	1.0	0.2	0.8	0.02	1.5		√
Iodide	mg/L	4	0.004	0.002	0.003	0.001			
Iron	mg/L	53	0.160	0.024	0.045	0.002		0.3	
Magnesium	mg/L	16	3.20	2.50	2.78	0.001			
Magnesium Hardness	mg/L	16	13.000	10.000	11.313	0.0041			
Manganese	mg/L	53	0.007	0.001	0.002	0.0005	0.4	0.04	√
pH	pH Units	326	8.2	6.7	7.6	0.1		7.0-8.5	
Potassium	mg/L	16	3.3	2.7	3.0	0.05			
Silicon	mg/L	4	36.0	30.0	33.8	0.1			
Sodium	mg/L	4	20.0	18.0	19.3	0.1		200	
Sulphate	mg/L	13	29.20	18.20	22.38	0.02		250	
Suspended Solids	mg/L	13	2.8	0.3	0.6	0.2			
Total Dissolved Solids	mg/L	13	240	130	163			1000	
Total Hardness	mg/L	16	65.00	47.00	54.44	0.029		200	
Total Organic Carbon TOC	mg/L	13	1.9	0.5	1.0	0.1			
Turbidity	NTU	326	0.6	ND	0.3	0.05		5	

Microbiology									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Confirmed Cryptosporidium per 100L	cysts/100 L	5	ND	ND	ND	1	<1		√
Confirmed Giardia per 100L	cysts/100 L	5	ND	ND	ND	1	<1		√

Microbiology cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
E. coli	cfu/100mL	326	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	
Dissolved Reactive Phosphorus	mg/L	13	0.011	0.006	0.008	0.005			
Nitrate (as NO3)	mg/L	13	4.216	1.054	2.353	0.009	50		√
Nitrite (as NO2)	mg/L	13	ND	ND	ND	0.007	3		√
TKN	mg/L	4	0.150	ND	0.088	0.1			
Total Phosphorus	mg/L	13	0.015	0.005	0.009	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	26	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	26	ND	ND	ND	2	9		√

Polycyclic Aromatic Hydrocarbons									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Benzo(a)pyrene	µg/L	26	ND	ND	ND	0.1	0.7		√

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	26	ND	ND	ND	0.01	0.04		√
Chlordane	µg/L	26	ND	ND	ND	0.01	0.2		√
Lindane	µg/L	26	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	26	ND	ND	ND	0.01			
Heptachlor epoxide	µg/L	26	ND	ND	ND	0.01			
Hexachlorobenzene	µg/L	26	ND	ND	ND	0.1			
Methoxychlor	µg/L	26	ND	ND	ND	0.2	20		√
Permethrin (cis + trans)	µg/L	26	ND	ND	ND	0.2			
DDT + isomers	µg/L	26	ND	ND	ND	0.2	1		√
Procymidone	µg/L	26	ND	ND	ND	0.2	700		√
Organonitrogen Herbicides									
Alachlor	µg/L	26	ND	ND	ND	0.2	20		√
Atrazine	µg/L	26	ND	ND	ND	0.1	100		√
Metolachlor	µg/L	26	ND	ND	ND	0.1	10		√
Molinate	µg/L	26	ND	ND	ND	0.1	7		√
Pendimethalin	µg/L	26	ND	ND	ND	0.2	20		√
Propanil	µg/L	26	ND	ND	ND	0.1			
Simazine	µg/L	26	ND	ND	ND	0.1	2		√
Terbuthylazine	µg/L	26	ND	ND	ND	0.2	8		√
Trifluralin	µg/L	26	ND	ND	ND	0.2	30		√
Organophosphorus Pesticides									
Chlorpyriphos	µg/L	26	ND	ND	ND	0.2	40		√
Diazinon	µg/L	26	ND	ND	ND	0.1			
Pirimiphos methyl	µg/L	26	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	µg/L	20	ND	ND	ND	0.001	0.02		√
Arsenic	µg/L	16	0.0020	0.0006	0.0011	0.0001	0.01		√
Barium	µg/L	16	0.022	0.015	0.018	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	16	0.210	0.096	0.168	0.005	2.4		√
Cadmium	mg/L	32	ND	ND	ND	0.00005	0.004		√
Chromium	mg/L	32	0.0010	ND	0.0001	0.0001	0.05		√
Copper	mg/L	32	0.0270	0.0065	0.0125	0.0002	2	1	√
Lead	mg/L	20	0.0002	ND	0.0001	0.0001	0.01		√
Lithium	mg/L	4	0.0600	0.0480	0.0522	0.0001			
Mercury	mg/L	32	0.00006	ND	ND	0.00005	0.007		√
Molybdenum	mg/L	4	0.0003	ND	0.0001	0.0003			
Nickel	mg/L	20	0.0006	ND	0.0002	0.0001	0.08		√
Selenium	mg/L	4	ND	ND	ND	0.0005	0.04		√
Zinc	mg/L	4	0.002	0.001	0.002	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	0.0079	ND	0.0041	0.0001	0.06		√
Bromoform	mg/L	53	0.0014	ND	0.0001	0.0001	0.1		√
Chloroform	mg/L	53	0.0091	ND	0.0039	0.0001	0.4		√
Dibromochloromethane	mg/L	53	0.0062	ND	0.0036	0.0001	0.15		√
THM Sum Ratio		53	0.18	ND	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	13	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	13	ND	ND	ND	0.0001		0.01	
1,2,4-trichlorobenzene	mg/L	13	ND	ND	ND	0.0001		0.005	
1,2-dichlorobenzene	mg/L	13	ND	ND	ND	0.0001	1.5	0.001	√
1,2-dichloroethane	mg/L	13	ND	ND	ND	0.0001	0.03		√
1,4-dichlorobenzene	mg/L	13	ND	ND	ND	0.0001	0.4	0.0003	√
Benzene	mg/L	13	ND	ND	ND	0.0001	0.01		√
Carbon tetrachloride	mg/L	13	ND	ND	ND	0.0001	0.005		√
Ethylbenzene	mg/L	13	ND	ND	ND	0.0001	0.3	0.002	√
Xylenes (total)	mg/L	13	ND	ND	ND	0.0001	0.6	0.02	√
Styrene	mg/L	13	ND	ND	ND	0.0001	0.03	0.004	√
Tetrachloroethene	mg/L	13	ND	ND	ND	0.0001	0.05		√
Toluene	mg/L	13	ND	ND	ND	0.0001	0.8	0.03	√
1,2-dichloroethene (cis + trans)	mg/L	13	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	4	ND	ND	ND	0.001			
Bromochloroacetic Acid	mg/L	4	0.003		0.001	0.001			
Monochloroacetic Acid	mg/L	4	ND	ND	ND	0.001	0.02		√
Dibromoacetic Acid	mg/L	4	0.002	ND	ND	0.001			
Dichloroacetic Acid	mg/L	4	0.005	ND	0.002	0.001	0.05		√
Trichloroacetic Acid	mg/L	4	0.007	ND	0.002	0.001	0.2		√
HAA Sum Ratio		4	0.14	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	5	0.040	0.015	0.024	0.002			
Alkalinity (Total) as $CaCO_3$	mg/L	5	45	31	39	1			
Aluminium	mg/L	4	0.009	0.007	0.008	0.005	1	0.1	√
Calcium	mg/L	1	7.5	7.5	7.5	0.01			
Chloride	mg/L	1	27.60	27.60	27.60	0.02		250	
Chlorine Residual	mg/L	17	1.71	1.19	1.44	0.02	5	0.3-1.0	√
Conductivity	mS/m	1	21.2	21.2	21.2	0.5			
Fluoride	mg/L	5	0.1	0.1	0.1	0.02	1.5		√
Iron	mg/L	4	0.009	ND	0.002	0.002		0.3	
Manganese	mg/L	4	0.015	ND	0.004	0.0005	0.4	0.04	√
pH	pH Units	17	7.7	7.1	7.4	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	12.3	12.3	12.3	0.02		250	
Suspended Solids	mg/L	1	ND	ND	ND	0.2			
Total Dissolved Solids	mg/L	1	160	160	160			1000	
Total Organic Carbon TOC	mg/L	1	0.9	0.9	0.9	0.1			
Turbidity	NTU	17	0.3	ND	0.1	0.05		5	

Microbiology									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Confirmed Cryptosporidium per 100L	cysts/100 L	1	ND	ND	ND	1	<1		√
Confirmed Giardia per 100L	cysts/100 L	1	ND	ND	ND	1	<1		√
E. coli	cfu/100mL	17	ND	ND	ND	1	<1		√

Nutrients									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Dissolved Reactive Phosphorus	mg/L	1	0.005	0.005	0.005	0.005			
Nitrate (as NO3)	mg/L	1	2.405	2.405	2.405	0.009	50		√
Nitrite (as NO2)	mg/L	1	ND	ND	ND	0.007	3		√
Total Phosphorus	mg/L	1	0.004	0.004	0.004	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		√

Polycyclic Aromatic Hydrocarbons									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Benzo(a)pyrene	µg/L	1	ND	ND	ND	0.1	0.7		√

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									
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		√
Lead	mg/L	1	0.0020	0.0020	0.0020	0.0001	0.01		√
Nickel	mg/L	1	0.0002	0.0002	0.0002	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	5	0.0044	0.0023	0.0035	0.0001	0.06		√
Bromoform	mg/L	5	ND	ND	ND	0.0001	0.1		√
Chloroform	mg/L	5	0.0073	0.0039	0.0054	0.0001	0.4		√
Dibromochloromethane	mg/L	5	0.0031	0.0017	0.0024	0.0001	0.15		√
THM Sum Ratio		5	0.11	0.06	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	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	2	ND	ND	ND	0.001			
Bromochloroacetic Acid	mg/L	2	0.0023	ND	0.0011	0.001			
Monochloroacetic Acid	mg/L	2	ND	ND	ND	0.001	0.02		√
Dibromoacetic Acid	mg/L	2	0.0011	ND	0.0006	0.001			
Dichloroacetic Acid	mg/L	2	0.0034	0.0028	0.0031	0.001	0.05		√
Trichloroacetic Acid	mg/L	2	0.0044	0.0026	0.0035	0.001	0.2		√
HAA Sum Ratio		2	0.09	0.07	0.08				

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	0.034	0.011	0.019	0.002			
Alkalinity (Total) as $CaCO_3$	mg/L	58	21	11	16	1			
Aluminium	mg/L	52	0.033	0.015	0.023	0.005	1	0.1	√
Bromate	mg/L	4	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	4	0.06	0.03	0.04	0.005			
Calcium	mg/L	16	11.0	8.30	9.4	0.01			
Calcium Hardness	mg/L	16	26	21	24	0.025			
Chlorate	mg/L	4	ND	ND	ND	0.01	0.8		√
Chloride	mg/L	4	23.40	21.00	22.37	0.02		250	
Chlorine Residual	mg/L	323	1.65	0.35	0.95	0.02	5	0.3-1.0	√
Chlorite	mg/L	4	ND	ND	ND	0.005	0.8		√
Colour	Hazen Units	13	8	ND	4	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	13	15.9	14.3	15.1	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	52	1.0	ND	0.7	0.02	1.5		√
Iodide	mg/L	4	0.006	ND	0.003	0.001			
Iron	mg/L	52	0.015	0.007	0.010	0.002		0.3	
Magnesium	mg/L	16	2.70	2.00	2.35	0.001			
Magnesium Hardness	mg/L	16	11.000	8.100	9.210	0.0041			
Manganese	mg/L	52	0.013	0.003	0.006	0.0005	0.4	0.04	√
pH	pH Units	323	7.8	6.9	7.4	0.1		7.0-8.5	
Potassium	mg/L	4	0.9	0.9	0.9	0.05			
Silicon	mg/L	4	13.0	9.6	11.5	0.1			
Sodium	mg/L	4	13.0	12.0	12.5	0.1		200	
Sulphate	mg/L	4	21.30	15.20	17.07	0.02		250	
Suspended Solids	mg/L	13	1.6	ND	0.5	0.2			
Total Hardness	mg/L	16	36.00	30.00	33.00	0.029		200	
Total Organic Carbon TOC	mg/L	13	1.6	0.9	1.2	0.1			
Turbidity	NTU	323	2.0	0.1	0.2	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	323	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	
Dissolved Reactive Phosphorus	mg/L	4	0.005	0.003	0.004	0.005			
Nitrate (as NO_3)	mg/L	4	0.133	0.027	0.071	0.009	50		√

Nutrients cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Nitrite (as NO_2)	mg/L	4	ND	ND	ND	0.007	3		√
TKN (Total Kjeldahl Nitrogen)	mg/L	4	0.104	ND	0.026	0.1			
Total Phosphorus	mg/L	4	0.004	ND	0.001	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		√

Polycyclic Aromatic Hydrocarbons									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Benzo(a)pyrene	µg/L	4	ND	ND	ND	0	0.7		√

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	20	ND	ND	ND	0.001	0.02		√
Arsenic	mg/L	4	0.0002	ND	0.0001	0.0001	0.01		√
Barium	mg/L	4	0.006	0.004	0.005	0.0002	1.5		√
Boron	mg/L	4	0.018	0.017	0.018	0.005	2.4		√
Cadmium	mg/L	20	ND	ND	ND	0.00005	0.004		√
Chromium	mg/L	20	0.0008	ND	0.0001	0.0001	0.05		√
Copper	mg/L	20	0.0005	ND	0.0003	0.0002	2	1	√
Lead	mg/L	20	ND	ND	ND	0.0001	0.01		√
Lithium	mg/L	4	0.0006	0.0004	0.0005	0.0001			
Mercury	mg/L	16	0.00010	ND	ND	0.00005	0.007		√
Molybdenum	mg/L	4	ND	ND	ND	0.0003			
Nickel	mg/L	20	0.0002	ND	ND	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	0.016	ND	0.004	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	0.0200	0.0039	0.0098	0.0001	0.06		√
Bromoform	mg/L	52	0.0068	ND	0.0019	0.0001	0.1		√
Chloroform	mg/L	52	0.0260	ND	0.0075	0.0001	0.4		√
Dibromochloromethane	mg/L	52	0.0220	0.0049	0.0106	0.0001	0.15		√
THM Sum Ratio		52	0.54	0.11	0.27		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	4	ND	ND	ND	0.001			
Bromochloroacetic Acid	mg/L	4	0.0057	ND	0.0033	0.001			
Monochloroacetic Acid	mg/L	4	ND	ND	ND	0.001	0.02		√
Dibromoacetic Acid	mg/L	4	0.0031	ND	0.0021	0.001			
Dichloroacetic Acid	mg/L	4	0.0071	ND	0.0032	0.001	0.05		√
Trichloroacetic Acid	mg/L	4	0.0079	ND	0.0029	0.001	0.2		√
HAA Sum Ratio		4	0.18	ND	0.08				

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	10	130	120	122	1			
Aluminium	mg/L	1	ND	ND	ND	0.005	1	0.1	√
Bromate	mg/L	1	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	1	0.082	0.082	0.082	0.005			
Calcium	mg/L	14	31.0	27.0	29.0	0.01			
Calcium Hardness	mg/L	14	78	67	72	0.025			
Chlorate	mg/L	1	ND	ND	ND	0.01	0.8		√
Chloride	mg/L	1	33.60	33.60	33.60	0.02		250	
Chlorine Residual	mg/L	104	1.40	0.45	0.88	0.02	5	0.3-1.0	√
Chlorite	mg/L	1	ND	ND	ND	0.005	0.8		√
Colour	Hazen Units	1	5	5	5	5		15	
Conductivity	mS/m	1	34.8	34.8	34.8	0.5			
Cyanide	mg/L	1	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	1	0.1	0.1	0.1	0.02	1.5		√
Iodide	mg/L	1	0.028	0.028	0.028	0.001			
Iron	mg/L	14	0.009	ND	0.001	0.002		0.3	
Magnesium	mg/L	14	8.00	7.00	7.37	0.001			
Magnesium Hardness	mg/L	14	33.000	29.000	30.357	0.0041			
Manganese	mg/L	14	0.001	0.001	0.001	0.0005	0.4	0.04	√
pH	pH Units	104	8.0	7.6	7.9	0.1		7.0-8.5	
Potassium	mg/L	1	5.0	5.0	5.0	0.05			
Silicon	mg/L	1	37.0	37.0	37.0	0.1			
Sodium	mg/L	1	25.0	25.0	25.0	0.1		200	
Sulphate	mg/L	1	4.90	4.90	4.90	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	ND	ND	ND	0.2			
Total Dissolved Solids	mg/L	1	180	180	180	15		1000	
Total Hardness	mg/L	14	110.00	96.00	103.00	0.029		200	
Total Organic Carbon TOC	Mg/L	13	0.4	ND	0.2	0.1			
Turbidity	NTU	104	0.2	ND	0.1	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	
Dissolved Reactive Phosphorus	mg/L	1	0.057	0.057	0.057	0.005			
Nitrate (as NO_3)	mg/L	1	0.111	0.111	0.111	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	0.059	0.059	0.059	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		√

Polycyclic Aromatic Hydrocarbons									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Benzo(a)pyrene	µg/L	1	ND	ND	ND	0.1	0.7		√

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	14	0.0040	0.0033	0.0037	0.0001	0.01		√
Barium	mg/L	1	ND	ND	ND	0.0002	1.5		√
Boron	mg/L	1	0.029	0.029	0.029	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	0.0034	0.0034	0.0034	0.0002	2	1	√
Lead	mg/L	1	0.0001	0.0001	0.0001	0.0001	0.01		√
Lithium	mg/L	1	0.0140	0.0140	0.0140	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	0.007	0.007	0.007	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	14	0.0170	ND	0.0026	0.0001	0.06		√
Bromoform	mg/L	14	0.0030	ND	0.0016	0.0001	0.1		√
Chloroform	mg/L	14	0.0310	ND	0.0024	0.0001	0.4		√
Dibromochloromethane	mg/L	14	0.0087	0.0016	0.0035	0.0001	0.15		√
THM Sum Ratio		14	0.41	0.02	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	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	10	200	180	188	0.002			
Bromate	mg/L	4	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	4	0.05	0.05	0.05	0.005			
Calcium	mg/L	4	28.0	23.0	25.3	0.01			
Calcium Hardness	mg/L	4	70	56	63	0.01			
Chlorate	mg/L	4	0.01	ND	ND	0.025	0.8		√
Chloride	mg/L	1	29.3	29.3	29.3	0.01		250	
Chlorine Residual	mg/L	104	1.87	0.37	1.03	0.02	5	0.3-1.0	√
Chlorite	mg/L	4	ND	ND	ND	0.02	0.8		√
Colour	Hazen Units	1	5	5	5	5		15	
Conductivity	mS/m	1	45.8	45.8	45.8	0.5			
Cyanide	mg/L	1	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	1	0.1	0.1	0.1	0.02	1.5		√
Iodide	mg/L	1	0.014	0.014	0.014	0.001			
Iron	mg/L	55	0.034	ND	0.004	0.002		0.3	
Magnesium	mg/L	4	8.60	6.60	7.58	0.001			
Magnesium Hardness	mg/L	4	35.000	27.000	31.000	0.0041			
Manganese	mg/L	4	0.005	ND	0.001	0.0005	0.4	0.04	√
pH	pH unit	108	7.8	7.2	7.5	0.1		7.0-8.5	
Sulphate	mg/L	1	10.70	10.70	10.70	0.02		250	
Suspended Solids	mg/L	1	0.8	0.8	0.8	0.2			
Total Dissolved Solids	mg/L	1	310	310	310	15		1000	
Total Hardness	mg/L	4	110.00	83.00	95.25	0.029		200	
Total Organic Carbon TOC	mg/L	14	1.3	0.7	0.9	0.1			
Turbidity	NTU	104	2.0	ND	0.1	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	0.014	0.014	0.014	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	1	0.082	0.082	0.082	0.005			
Nitrate (as NO_3)	mg/L	1	0.040	0.040	0.040	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	0.094	0.094	0.094	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	17	0.0001	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	55	0.0170	0.0052	0.0104	0.0001	0.06		√
Bromoform	mg/L	55	0.0033	ND	0.0017	0.0001	0.1		√
Chloroform	mg/L	55	0.0180	0.0057	0.0106	0.0001	0.4		√
Dibromochloromethane	mg/L	55	0.0190	0.0035	0.0092	0.0001	0.15		√
THM Sum Ratio		55	0.48	0.12	0.28		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	13	ND	ND	ND	0.0001	0.01		√
2-4-Dichlorophenoxyacetic acid (2,4-D)	mg/L	13	ND	ND	ND	0.0001	0.04		√
4-(2-4-Dichlorophenoxy) butanoic acid (2,4-DB)	mg/L	13	ND	ND	ND	0.0001	0.1		√
Bentazone	mg/L	13	ND	ND	ND	0.0001			
Dichlorprop	mg/L	13	ND	ND	ND	0.0001	0.1		√
MCPA	mg/L	13	ND	ND	ND	0.0001	0.8		√
Mecoprop (MCPP)	mg/L	13	ND	ND	ND	0.0001	0.01		√
Picloram	mg/L	13	ND	ND	ND	0.0001	0.2		√
Triclopyr	mg/L	13	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	0.029	ND	0.016	0.002			
Alkalinity (Total) as $CaCO_3$	mg/L	58	55	34	43	1			
Aluminium	mg/L	54	0.110	ND	0.018	0.005	1	0.1	√
Bromate	mg/L	4	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	4	0.07	0.04	0.06	0.005			
Calcium	mg/L	16	14.0	9.8	11.9	0.01			
Calcium Hardness	mg/L	16	34	24	29	0.025			
Chlorate	mg/L	4	ND	ND	ND	0.01	0.8		√
Chloride	mg/L	4	29.10	24.60	27.18	0.02		250	
Chlorine Residual	mg/L	104	1.74	0.62	1.31	0.02	5	0.3-1.0	√
Chlorite	mg/L	4	ND	ND	ND	0.005	0.8		√
Colour	Hazen Units	4	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	16	27.8	23.5	25.4	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	13	0.1	ND	ND	0.02	1.5		√
Iodide	mg/L	4	0.006	ND	0.003	0.001			
Iron	mg/L	16	0.150	ND	0.012	0.002		0.3	
Magnesium	mg/L	16	5.20	3.30	4.24	0.001			
Magnesium Hardness	mg/L	16	22.000	14.000	17.500	0.0041			
Manganese	mg/L	16	0.039	0.005	0.018	0.0005	0.4	0.04	√
pH	pH Units	108	7.5	6.9	7.2	0.1		7.0-8.5	
Potassium	mg/L	4	2.1	1.2	1.6	0.05			
Silicon	mg/L	4	19.0	17.0	78.0	0.1			
Sodium	mg/L	4	32.0	26.0	30.0	0.1		200	
Sulphate	mg/L	4	39.20	29.00	35.20	0.02		250	
Suspended Solids	mg/L	13	0.3	ND	0.1	0.2			
Total Dissolved Solids	mg/L	13	190	110	155	15		1000	
Total Hardness	mg/L	16	54.00	47.00	40.00	0.029		200	
Total Organic Carbon TOC	mg/L	52	4.70	ND	1.19				
Turbidity	NTU	104	0.4	ND	0.1	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	1*	ND	ND	1	<1		√

**On the 21th May 2024, a positive E.coli result of 1.0 cfu/100mL was detected in the Wellsford WTP treated water sample. A review of all online compliance monitoring data confirmed that the Wellsford WTP was fully compliant with the Drinking Water Quality Assurance Rules, section 4.10.1.4, T3 Bacterial Rules for Water Disinfected with Ultraviolet Light and that the WTP continued to produce safe drinking water. In addition, treated water chlorine data was within the expected range for this day. 3-days of resampling were scheduled at the treatment plant and in the Wellsford networks. All samples taken during this period showed E.coli and total coliforms below detection limits. Investigation confirmed that this E.coli positive result was not representative of water supplied to the community of Wellsford.*

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	
Dissolved Reactive Phosphorus	mg/L	13	0.004	0.002	0.003	0.005			
Nitrate (as NO_3)	mg/L	16	2.542	0.053	1.184	0.009	50		√
Nitrite (as NO_2)	mg/L	16	ND	ND	ND	0.007	3		√
TKN (Total Kjeldahl Nitrogen)	mg/L	4	0.172	ND	0.076	0.1			
Total Phosphorus	mg/L	13	0.006	ND	0.002	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	13	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	13	ND	ND	ND	2	9		√

Polycyclic Aromatic Hydrocarbons									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Benzo(a)pyrene	µg/L	13	ND	ND	ND	0.1	0.7		√

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	13	ND	ND	ND	0.01	0.04		√
Chlordane	µg/L	13	ND	ND	ND	0.01	0.2		√
Lindane	µg/L	13	ND	ND	ND	0.01	2		√
Heptachlor	µg/L	13	ND	ND	ND	0.01			
Heptachlor epoxide	µg/L	13	ND	ND	ND	0.01			
Hexachlorobenzene	µg/L	13	ND	ND	ND	0.1			
Methoxychlor	µg/L	13	ND	ND	ND	0.2	20		√

Organochlorine Pesticides cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Permethrin (cis + trans)	µg/L	13	ND	ND	ND	0.2			
DDT + isomers	µg/L	13	ND	ND	ND	0.2	1		√
Procymidone	µg/L	13	ND	ND	ND	0.2	700		√
Organonitrogen Herbicides									
Alachlor	µg/L	13	ND	ND	ND	0.2	20		√
Atrazine	µg/L	13	ND	ND	ND	0.1	100		√
Metolachlor	µg/L	13	ND	ND	ND	0.1	10		√
Molinate	µg/L	13	ND	ND	ND	0.1	7		√
Pendimethalin	µg/L	13	ND	ND	ND	0.2	20		√
Propanil	µg/L	13	ND	ND	ND	0.1			
Simazine	µg/L	13	ND	ND	ND	0.1	2		√
Terbuthylazine	µg/L	13	ND	ND	ND	0.2	8		√
Trifluralin	µg/L	13	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	13	ND	ND	ND	0.2	40		√
Diazinon	µg/L	13	ND	ND	ND	0.1			
Pirimiphos methyl	µg/L	13	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	20	ND	ND	ND	0.001	0.02		√
Arsenic	mg/L	4	0.0001	ND	0.0001	0.0001	0.01		√
Barium	mg/L	4	0.023	0.015	0.018	0.0002	1.5		√
Boron	mg/L	4	0.020	0.015	0.018	0.005	2.4		√
Cadmium	mg/L	20	ND	ND	ND	0.00005	0.004		√

Trace Elements cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Chromium	mg/L	20	0.0007	ND	0.0001	0.0001	0.05		√
Copper	mg/L	20	0.0037	0.0011	0.0019	0.0002	2	1	√
Lead	mg/L	20	ND	ND	ND	0.0001	0.01		√
Lithium	mg/L	4	0.0018	0.0004	0.0012	0.0001			
Mercury	mg/L	20	ND	ND	ND	0.00005	0.007		√
Molybdenum	mg/L	4	ND	ND	ND	0.0003			
Nickel	mg/L	20	0.0008	0.0003	0.0005	0.0001	0.08		√
Selenium	mg/L	4	ND	ND	ND	0.0005	0.04		√
Zinc	mg/L	4	0.009	0.006	0.007	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	54	0.0140	ND	0.0041	0.0001	0.06		√
Bromoform	mg/L	54	0.0055	ND	0.0018	0.0001	0.1		√
Chloroform	mg/L	54	0.0120	ND	0.0024	0.0001	0.4		√
Dibromochloromethane	mg/L	54	0.0160	ND	0.0065	0.0001	0.15		√
THM Sum Ratio		54	0.38	ND	0.14		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	14	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	14	ND	ND	ND	0.0001		0.01	
1,2,4-trichlorobenzene	mg/L	14	ND	ND	ND	0.0001		0.005	
1,2-dichlorobenzene	mg/L	14	ND	ND	ND	0.0001	1.5	0.001	√
1,2-dichloroethane	mg/L	14	ND	ND	ND	0.0001	0.03		√
1,4-dichlorobenzene	mg/L	14	ND	ND	ND	0.0001	0.4	0.0003	√

Volatile Organic Compounds cont.									
Component Name	**Units**	**Number of Samples**	**Max**	**Min**	**Average**	**Detection Limit**	**MAV DWSNZ2022**	**AV DWQAR**	**Compliance DWSNZ2022**
Benzene	mg/L	14	ND	ND	ND	0.0001	0.01		√
Carbon tetrachloride	mg/L	14	ND	ND	ND	0.0001	0.005		√
Ethylbenzene	mg/L	14	ND	ND	ND	0.0001	0.3	0.002	√
Xylenes (total)	mg/L	14	ND	ND	ND	0.0001	0.6	0.02	√
Styrene	mg/L	14	ND	ND	ND	0.0001	0.03	0.004	√
Tetrachloroethene	mg/L	14	ND	ND	ND	0.0001	0.05		√
Toluene	mg/L	14	ND	ND	ND	0.0001	0.8	0.03	√
1,2-dichloroethene (cis + trans)	mg/L	14	ND	ND	ND	0.0001	0.06		√
Trichloroethene	mg/L	14	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	0.0031	ND	0.0019	0.001			
Monochloroacetic Acid	mg/L	4	ND	ND	ND	0.001	0.02		√
Dibromoacetic Acid	mg/L	4	0.0036	ND	0.0024	0.001			
Dichloroacetic Acid	mg/L	4	0.0028	ND	0.0010	0.001	0.05		√
Trichloroacetic Acid	mg/L	4	ND	ND	ND	0.001	0.2		√
HAA Sum Ratio		4	0.06	ND	0.01				

Water Quality Compliance Data for the Distribution Network Zones

Anzac 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	0.57	7.30	0.00
Median	0.30	0.00	1.03	7.70	0.00
Average	0.31	0.00	1.02	7.65	0.00
Maximum	0.75	0.00	1.60	8.00	0.00
Count of Results	117	117	156	117	117
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	0.40	7.00	0.00
Median	0.15	0.00	0.95	7.60	0.00
Average	0.25	0.00	0.93	7.60	0.00
Maximum	14.00	0.00	1.38	8.80	0.00
Count of Results	715	715	715	715	715
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	0.00	0.00	0.44	7.10	0.00
Median	0.15	0.00	0.95	7.70	0.00
Average	0.19	0.00	0.95	7.62	0.00
Maximum	1.20	0.00	1.27	8.00	0.00
Count of Results	131	131	183	131	131
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	0.28	6.90	0.00
Median	0.10	0.00	0.88	7.60	0.00
Average	0.14	0.00	0.90	7.61	0.26
Maximum	3.50	0.00	1.27	8.00	14.00
Count of Results	104	106	156	104	106
Compliance with D3 disinfection criteria			Met		

Buckland 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	0.44	7.30	0.00
Median	0.25	0.00	1.02	7.70	0.00
Average	0.41	0.00	1.00	7.68	0.00
Maximum	5.80	0.00	1.35	8.10	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	0.05	0.00	0.26	7.10	0.00
Median	0.15	0.00	0.83	7.70	0.00
Average	0.19	0.00	0.79	7.75	0.00
Maximum	3.10	0.00	1.28	9.10	0.00
Count of Results	210	210	223	210	210
Compliance with D3 disinfection criteria			Met		

Clarks / Waiau Beach 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	0.35	7.30	0.00
Median	0.30	0.00	0.92	7.70	0.00
Average	0.31	0.00	0.90	7.71	0.00
Maximum	1.10	0.00	1.65	8.00	0.00
Count of Results	117	117	156	117	117
Compliance with D3 disinfection criteria			Met		

East Tamaki / 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	0.48	7.20	0.00
Median	0.15	0.00	1.02	7.60	0.00
Average	0.20	0.00	1.00	7.57	0.00
Maximum	5.40	0.00	1.38	7.90	0.00
Count of Results	223	223	288	223	223
Compliance with D3 disinfection criteria			Met		

Glenbrook Beach 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	0.36	7.30	0.00
Median	0.30	0.00	0.91	7.70	0.00
Average	0.31	0.00	0.90	7.92	0.00
Maximum	1.40	0.00	1.33	8.20	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	0.13	7.00	0.00
Median	0.15	0.00	0.88	7.50	0.00
Average	0.27	0.00	0.85	7.55	0.00
Maximum	10.00	0.00	1.32	8.30	0.00
Count of Results	235	235	313	235	235
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	0.10	0.00	0.09	7.20	0.00
Median	0.20	0.00	0.80	7.70	0.00
Average	0.22	0.00	0.76	7.88	0.00
Maximum	0.70	0.00	3.30	8.90	0.00
Count of Results	261	261	326	261	261

Compliance with D3 disinfection criteria			Not met*		

Comments:
**Not met due to one result in March where FAC was less than the 0.1 mg/L requirement. A total of 92 samples were reported for the Jan-Mar period.*

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.

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	0.25	7.00	0.00
Median	0.10	0.00	0.73	7.40	0.00
Average	0.14	0.00	0.75	7.41	0.00
Maximum	0.40	0.00	1.34	7.70	0.00
Count of Results	117	117	156	117	117
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	0.18	6.90	0.00
Median	0.20	0.00	0.88	7.50	0.00
Average	0.25	0.00	0.86	7.51	0.00
Maximum	4.90	0.00	1.96	8.20	0.00
Count of Results	404	408	404	404	408
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	0.02	6.60	0.00
Median	0.15	0.00	0.97	7.50	0.00
Average	0.19	0.00	0.92	7.52	0.00
Maximum	6.20	0.00	1.49	7.80	0.00
Count of Results	310	310	310	310	310
Compliance with D3 disinfection criteria			Not met*		

Comments:
**Not met due to one result in March where FAC was less than the 0.1 mg/L requirement. A total of 107 samples were reported for the Jan-Mar period. Two results in May where FAC was less than the 0.1 mg/L requirement. A total of 98 samples were reported for the Apr-Jun period.*

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.

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	0.10	0.00	0.41	7.10	0.00
Median	0.20	0.00	0.97	7.60	0.00
Average	0.21	0.00	0.94	7.64	0.00
Maximum	1.30	0.00	1.49	8.10	0.00
Count of Results	276	276	276	276	276
Compliance with D3 disinfection criteria			Met		

Hilltop 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	0.20	0.00	0.42	7.20	0.00
Median	0.30	0.00	0.81	7.70	0.00
Average	0.31	0.00	0.83	7.66	0.00
Maximum	2.40	0.00	1.38	8.00	0.00
Count of Results	117	117	156	117	117
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	0.48	7.10	0.00
Median	0.15	0.00	0.96	7.70	0.00
Average	0.49	0.00	0.95	7.68	0.02
Maximum	120.00	0.00	1.42	8.40	7.00
Count of Results	390	390	390	390	390
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	0.14	7.20	0.00
Median	0.10	0.00	1.01	7.70	0.00
Average	0.24	0.00	0.96	7.72	0.01
Maximum	17.00	0.00	1.56	8.30	1.00
Count of Results	143	143	182	143	143
Compliance with D3 disinfection criteria			Met		

Kitchener Distribution Network Zone

Supplied by: Ardmore and Waikato WTPs

	Turbidity	*E. coli*	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100mL	mg/L	pH unit	MPN/100mL
Minimum	0.10	0.00	0.58	7.20	0.00
Median	0.30	0.00	1.04	7.60	0.00
Average	0.32	0.00	1.03	7.64	0.00
Maximum	1.10	0.00	1.38	8.00	0.00
Count of Results	168	168	209	168	168
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	0.10	0.00	0.11	7.10	0.00
Median	0.20	0.00	0.72	7.60	0.00
Average	0.22	0.00	0.69	7.68	0.00
Maximum	2.40	0.00	1.35	8.40	0.00
Count of Results	143	143	182	143	143
Compliance with D3 disinfection criteria			Met		

Mangere 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	0.39	7.00	0.00
Median	0.15	0.00	1.02	7.60	0.00
Average	0.17	0.00	0.97	7.60	0.00
Maximum	0.75	0.00	1.72	8.00	1.00
Count of Results	314	314	340	314	314
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	0.00	0.00	0.39	7.20	0.00
Median	0.15	0.00	0.96	7.70	0.00
Average	0.17	0.00	0.96	7.66	0.00
Maximum	0.50	0.00	1.39	8.80	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	0.20	6.80	0.00
Median	0.15	0.00	0.86	7.60	0.00
Average	0.18	0.00	0.84	7.54	0.15
Maximum	3.90	0.00	1.42	8.10	65.00
Count of Results	522	523	549	522	523
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	0.04	7.10	0.00
Median	0.15	0.00	0.75	7.40	0.00
Average	0.19	0.00	0.74	7.48	0.00
Maximum	0.95	0.00	1.19	8.50	0.00
Count of Results	195	195	234	195	195

Compliance with D3 disinfection criteria			Not met*		

Comments:
**Not met due to one result in May where FAC was less than the 0.1 mg/L requirement. A total of 70 samples were reported for the Apr-Jun period.*

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.

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	0.00	0.00	0.23	7.10	0.00
Median	0.15	0.00	0.75	7.60	0.00
Average	0.18	0.00	0.73	7.63	0.00
Maximum	1.60	0.00	1.13	8.10	0.00
Count of Results	314	314	314	314	314

Compliance with D3 disinfection criteria			Met		

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	0.34	7.10	0.00
Median	0.10	0.00	0.85	7.40	0.00
Average	0.15	0.00	0.84	7.39	0.00
Maximum	3.70	0.00	1.40	7.90	0.00
Count of Results	114	114	166	114	114
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	0.17	7.10	0.00
Median	0.15	0.00	0.80	7.70	0.00
Average	0.20	0.00	0.78	7.67	0.00
Maximum	1.70	0.00	1.74	9.70	1.00
Count of Results	482	496	536	482	496
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	0.00	0.00	0.15	7.00	0.00
Median	0.15	0.00	0.80	7.50	0.00
Average	0.20	0.00	0.78	7.58	0.00
Maximum	3.50	0.00	1.35	8.60	0.00
Count of Results	612	627	612	612	627
Compliance with D3 disinfection criteria			Met		

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	6.50	0.00
Median	0.15	0.00	0.78	7.40	0.00
Average	0.25	0.00	0.77	7.40	0.01
Maximum	7.60	0.00	1.28	7.90	2.00
Count of Results	287	287	340	287	287
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	0.10	0.00	0.03	7.00	0.00
Median	0.20	0.00	0.60	7.80	0.00
Average	0.25	0.00	0.60	7.97	0.01
Maximum	1.80	0.00	1.12	9.00	14.00
Count of Results	143	143	182	143	287

Compliance with D3 disinfection criteria			Not met*		

Comments:
**Not met due to one result in January where FAC was less than the 0.1 mg/L requirement. A total of 45 samples for the Jan-Mar 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.

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	0.04	6.70	0.00
Median	0.15	0.00	1.02	7.60	0.00
Average	0.42	0.00	0.96	7.57	0.01
Maximum	18.00	0.00	1.95	8.00	1.00
Count of Results	169	169	1.56	169	169

Compliance with D3 disinfection criteria			Not met*		

Comments:
**Not met due to one result in February where FAC was less than the 0.1 mg/L requirement. A total of 49 samples for the Jan-Mar period. Two results in April where FAC was less than the 0.1 mg/L requirement. A total of 49 samples were reported for the Apr-Jun 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.

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	0.05	0.00	0.13	6.90	0.00
Median	0.15	0.00	1.03	7.60	0.00
Average	0.21	0.00	0.98	7.56	0.02
Maximum	1.70	0.00	1.39	7.90	3.10
Count of Results	288	289	327	288	289
Compliance with D3 disinfection criteria			Met		

Patumahoe 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	0.49	6.90	0.00
Median	0.25	0.00	0.95	7.70	0.00
Average	0.32	0.00	0.94	7.65	0.00
Maximum	4.70	0.00	1.33	8.10	0.00
Count of Results	129	129	168	129	129
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	0.63	7.60	0.00
Median	0.10	0.00	1.17	8.30	0.00
Average	0.08	0.00	1.17	8.32	0.00
Maximum	0.30	0.00	1.69	8.50	0.00
Count of Results	104	104	156	104	104
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	0.05	0.00	0.05	7.20	0.00
Median	0.20	0.00	0.69	7.70	0.00
Average	0.24	0.00	0.66	7.78	0.00
Maximum	1,50	0.00	1.23	8.40	0.00
Count of Results	143	143	182	143	143
Compliance with D3 disinfection criteria			Not met*		

Comments:
**Not met due to one result in May where FAC was less than the 0.1 mg/L requirement. A total of 46 samples were reported for the Apr-Jun 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.

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	0.10	0.00	0.02	7.20	0.00
Median	0.20	0.00	0.64	7.80	0.00
Average	0.27	0.00	0.62	7.82	0.00
Maximum	3.30	0.00	1.26	8.70	0.00
Count of Results	156	156	182	156	156

Compliance with D3 disinfection criteria			Not met*		

Comments:

**Not met due seven results in January, one result in February and one result in March where FAC was less than the 0.1 mg/L requirement. A total of 45 samples for the Jan-Mar period. Only 56% of results in January and 80% of results in February were greater than 0.2 mg/L where 85% is the minimum requirement. One result in June where FAC was less than the 0.1 mg/L requirement. A total of 46 samples were reported for the Apr-Jun 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.

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	0.45	7.80	0.00
Median	0.05	0.00	0.95	8.00	0.00
Average	0.07	0.00	0.92	7.98	0.00
Maximum	0.30	0.00	1.53	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	0.19	7.30	0.00
Median	0.10	0.00	0.74	7.60	0.00
Average	0.09	0.00	0.77	7.59	0.00
Maximum	0.50	0.00	1.54	7.70	0.00
Count of Results	104	104	156	104	104

Compliance with D3 disinfection criteria			Met		

Wellsford 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	0.02	7.00	0.00
Median	0.15	0.00	0.77	7.30	0.00
Average	0.19	0.00	0.75	7.31	0.00
Maximum	2.10	0.00	1.46	7.70	0.00
Count of Results	104	104	156	104	104

Compliance with D3 disinfection criteria			Not met*		

Comments:

**Not met due one result in January and two results in February where FAC was less than the 0.1 mg/L requirement. A total of 39 samples for the Jan-Mar period. Only 83.3% of results in June were greater than 0.2 mg/L where 85% is the minimum requirement. Two out of a total of 46 results reported for the Apr-Jun period were below 0.2 mg/L, however all were greater than 0.1 mg/L.*

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	0.23	7.00	0.00
Median	0.20	0.00	0.85	7.60	0.00
Average	0.21	0.00	0.82	7.56	0.10
Maximum	1.70	0.00	1.52	8.00	16.00
Count of Results	208	208	221	208	208

compliance with D3 disinfection criteria			Met		