

Annual Water Quality Report

July 2024 – June 2025

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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 the Drinking-water Regulations.

An **AV** is the concentration of specific water quality parameters which have no effect on human health but may affect the aesthetic qualities of a drinking water. Exceeding **AVs** 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
<i>E. coli</i> (<i>Escherichia coli</i>)	N/A	<1.0/100mL	MPN/100mL
Total coliforms	N/A	N/A	MPN/100mL

List of Water Treatment Plants and the Distribution Network Zones Supplied

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

Water Treatment Plant	Distribution Network Zones Supplied
Waikato	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-dichlorophenoxy) butanoic acid (2,4-DB)	mg/L	4	ND	ND	ND	0.0001	0.1		√
Bentazone	mg/L	4	ND	ND	ND	0.0001			
Dichlorprop	mg/L	4	ND	ND	ND	0.0001	0.1		√
MCPA	mg/L	4	ND	ND	ND	0.0001	0.8		√
Mecoprop	mg/L	4	ND	ND	ND	0.0001	0.01		√
Picloram	mg/L	4	ND	ND	ND	0.0001	0.2		√
Triclopyr	mg/L	4	ND	ND	ND	0.0001	0.1		√

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

Chemical and Physical									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
UV absorbance at 254nm (abs254)	Abs units	52	0.021	0.005	0.013	0.002			
Alkalinity (Total) as CaCO ₃	mg/L	52	22	15	18.4	1			
Aluminium	mg/L	104	0.03	0.01	0.02	0.005	1	0.1	√
Bromate	mg/L	12	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	12	0.04	0.02	0.03	0.005			
Calcium	mg/L	12	7.30	6.40	6.80	0.01			

Chemical and Physical cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Calcium Hardness	mg/L	12	18.00	16.00	17.00	0.025			
Chlorate	mg/L	12	ND	ND	ND	0.01	0.8		√
Chloride	mg/L	12	14.20	10.00	12.93	0.02		250	
Chlorine Residual	mg/L	366	2.00	0.82	1.33	0.02	5	0.3-1.0	√
Chlorite	mg/L	12	ND	ND	ND	0.005	0.8		√
Colour	Hazen Units	12	5.00	0.00	1.25	5		15	
Conductivity	mS/m	12	10.7	9.7	10.1	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.02	0.6		√
Fluoride	mg/L	52	0.93	0.04	0.83	0.02	1.5		√
Iodide	mg/L	4	ND	ND	ND	0.001			
Iron	mg/L	104	0.04	0.00	0.01	0.001		0.3	
Magnesium	mg/L	12	1.60	1.40	1.50	0.001			
Magnesium Hardness	mg/L	12	6.50	5.60	6.15	0.0041			
Manganese	mg/L	104	0.01	0.00	0.00	0.0005	0.4	0.04-0.10	√
pH	pH Units	365	8.00	7.00	7.55	0.1		7.0-8.5	
Potassium	mg/L	4	1.10	0.98	1.05	0.05			
Silicon	mg/L	4	15.0	13.0	14.0	0.1			
Sodium	mg/L	4	8.80	8.20	8.58	0.1		200	
Sulphate	mg/L	4	8.55	7.64	8.13	0.02		250	
Suspended Solids	mg/L	12	0.40	0.00	0.03	0.2			
Total Hardness	mg/L	12	24.00	22.00	23.25	0.029		200	
Total Organic Carbon TOC	mg/L	12	1.00	0.40	0.79	0.1			
Turbidity	NTU	365	0.50	0.00	0.16	0.05		5	

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limits	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
<i>Escherichia coli</i>	cfu/100mL	365	ND	ND	ND	1	<1		√

Nutrients									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Ammonia	mg/L	4	ND	ND	ND	0.005		1.5	
Nitrate (as NO ₃)	mg/L	4	0.10	0.03	0.06	0.009	50		√
Nitrite (as NO ₂)	mg/L	4	ND	ND	ND	0.007	3		√
TKN (Total Kjeldahl Nitrogen)	mg/L	4	0.22	ND	ND	0.1			
Total Phosphorus	mg/L	4	0.01	ND	ND	0.005			

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

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

Trace Elements									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Antimony	mg/L	4	ND	ND	ND	0.001	0.02		✓
Arsenic	mg/L	4	ND	ND	ND	0.0001	0.01		✓
Barium	mg/L	4	0.01	ND	0.01	0.0002	1.5		✓
Boron	mg/L	12	0.01	ND	0.01	0.005	2.4		✓
Cadmium	mg/L	4	ND	ND	ND	0.00005	0.004		✓
Chromium	mg/L	4	ND	ND	ND	0.0001	0.05		✓
Copper	mg/L	4	ND	ND	ND	0.0002	2	1	✓
Lead	mg/L	12	ND	ND	ND	0.0001	0.01		✓
Lithium	mg/L	4	ND	ND	ND	0.0001			
Mercury	mg/L	4	0.00008	ND	ND	0.00005	0.007		✓
Molybdenum	mg/L	4	ND	ND	ND	0.0003			
Nickel	mg/L	4	ND	ND	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	0.01	ND	ND	0.0001	0.06		✓
Bromoform	mg/L	52	ND	ND	ND	0.0001	0.1		✓
Chloroform	mg/L	52	0.01	ND	ND	0.0001	0.4		✓
Dibromochloromethane	mg/L	52	0.01	ND	ND	ND	0.15		✓
THM Sum Ratio		52	0.18	0.04	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	4	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	4	ND	ND	ND	0.0001		0.01	
1,2,4-trichlorobenzene	mg/L	4	ND	ND	ND	0.0001		0.005	
1,2-dichlorobenzene	mg/L	4	ND	ND	ND	0.0001	1.5	0.001	√
1,2-dichloroethane	mg/L	4	ND	ND	ND	0.0001	0.03		√
1,4-dichlorobenzene	mg/L	4	ND	ND	ND	0.0001	0.4	0.0003	√
Benzene	mg/L	4	ND	ND	ND	0.0001	0.01		√
Carbon tetrachloride	mg/L	4	ND	ND	ND	0.0001	0.005		√
Ethylbenzene	mg/L	4	ND	ND	ND	0.0001	0.3	0.002	√
Xylenes (total)	mg/L	4	ND	ND	ND	0.0001	0.6	0.02	√
Styrene	mg/L	4	ND	ND	ND	0.0001	0.03	0.004	√
Tetrachloroethene	mg/L	4	ND	ND	ND	0.0001	0.05		√
Toluene	mg/L	4	ND	ND	ND	0.0001	0.8	0.03	√
1,2-dichloroethene (cis + trans)	mg/L	4	ND	ND	ND	0.0001	0.06		√
Trichloroethene	mg/L	4	ND	ND	ND	0.0001	0.03		√

Halo Acetic Acids (HAAs)									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Bromoacetic Acid	mg/L	12	ND	ND	ND	0.0005			
Bromochloroacetic Acid	mg/L	12	ND	ND	ND	0.0005			
Dibromoacetic Acid	mg/L	12	ND	ND	ND	0.0005			
Dichloroacetic Acid	mg/L	12	ND	ND	ND	0.0005	0.05		√
Trichloroacetic Acid	mg/L	12	ND	ND	ND	0.0005	0.2		√
HAA Sum Ratio		12	0.10	ND	ND				

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-dichlorophenoxy) 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		√
Tricopyr	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	0.02	ND	0.01	0.002			
Alkalinity (Total) as CaCO ₃	mg/L	51	23.00	16.00	18.92	1			
Aluminium	mg/L	102	0.06	0.01	0.02	0.005	1	0.1	√
Bromate	mg/L	12	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	12	0.03	0.02	0.03	0.005			
Calcium	mg/L	12	7.30	6.10	6.81	0.01			
Calcium Hardness	mg/L	12	18.00	15.00	17.00	0.025			
Chlorate	mg/L	12	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	12	14.10	4.25	12.45	0.02		250	
Chlorine Residual	mg/L	358	1.67	0.87	1.34	0.02	5	0.3-1.0	√
Chlorite	mg/L	12	ND	ND	ND	0.005	0.8		√
Colour	Hazen Units	12	5.00	ND	0.42	5		15	
Conductivity	mS/m	12	10.90	9.50	10.15	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	51	0.93	0.06	0.78	0.02	1.5		√
Iodide	mg/L	4	0.01	ND	ND	0.001			
Iron	mg/L	102	0.11	ND	0.01	0.002		0.3	
Magnesium	mg/L	12	1.50	1.40	1.47	0.001			
Magnesium Hardness	mg/L	12	6.40	5.60	6.12	0.0041			
Manganese	mg/L	102	0.01	ND	ND	0.0005	0.4	0.04	√
pH	pH unit	357	7.90	6.90	7.55	0.1		7.0-8.5	
Potassium	mg/L	4	1.10	0.98	1.05	0.05			
Silicon	mg/L	4	15.00	13.00	14.00	0.1			
Sodium	mg/L	4	9.00	8.30	8.68	0.1		200	
Sulphate	mg/L	4	8.57	7.68	8.16	0.02		250	
Suspended Solids	mg/L	12	0.56	ND	0.14	0.2			
Total Hardness	mg/L	12	24.00	21.00	23.08	0.029		200	
Total Organic Carbon	mg/L	12	1.00	0.40	0.79	0.1			
Turbidity	NTU	357	0.50	ND	0.16	0.05		5	

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

Nutrients									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Ammonia	mg/L	4	ND	ND	ND	0.005		1.5	
Nitrate (as NO ₃)	mg/L	4	0.10	0.03	0.06	0.009	50		√
Nitrite (as NO ₂)	mg/L	4	ND	ND	ND	0.007	3		√
TKN (Total Kjeldahl Nitrogen)	mg/L	4	0.22	ND	0.05	0.1			
Total Phosphorus	mg/L	4	0.01	ND	ND	0.005			

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

Semi Volatile Organic Compounds									
Organochlorine Pesticides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWSNZ	Compliance DWSNZ2022
Aldrin + Dieldrin	µg/L	4	ND	ND	ND	0.01	0.04		√
Chlordane	µg/L	4	ND	ND	ND	0.01	0.2		√
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									
Chlorpyrifos	µg/L	4	ND	ND	ND	0.2	40		√
Diazinon	µg/L	4	ND	ND	ND	0.1			
Pirimiphos methyl	µg/L	4	ND	ND	ND	0.2	100		√

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

Mercury	mg/L	4	0.00008 2	ND	0.00002 1	0.00005	0.007		✓
Molybdenum	mg/L	4	ND	ND	ND	0.0003			
Nickel	mg/L	4	ND	ND	ND	0.0001	0.08		✓
Selenium	mg/L	4	ND	ND	ND	0.0005	0.04		✓
Zinc	mg/L	4	ND	ND	ND	0.001		1.5	

Trihalomethanes									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Bromodichloromethane	mg/L	51	0.01	ND	ND	0.0001	0.06		✓
Bromoform	mg/L	51	ND	ND	ND	0.0001	0.1		✓
Chloroform	mg/L	51	0.01	ND	ND	0.0001	0.4		✓
Dibromochloromethane	mg/L	51	0.01	ND	ND	0.0001	0.15		✓
THM Sum Ratio		51	0.18	0.05	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	4	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	4	ND	ND	ND	0.0001		0.01	
1,2,4-trichlorobenzene	mg/L	4	ND	ND	ND	0.0001		0.005	
1,2-dichlorobenzene	mg/L	4	ND	ND	ND	0.0001	1.5	0.001	✓
1,2-dichloroethane	mg/L	4	ND	ND	ND	0.0001	0.03		✓
1,4-dichlorobenzene	mg/L	4	ND	ND	ND	0.0001	0.4	0.0003	✓
Benzene	mg/L	4	ND	ND	ND	0.0001	0.01		✓
Carbon tetrachloride	mg/L	4	ND	ND	ND	0.0001	0.005		✓
Ethylbenzene	mg/L	4	ND	ND	ND	0.0001	0.3	0.002	✓
Xylenes (total)	mg/L	4	ND	ND	ND	0.0001	0.6	0.02	✓
Styrene	mg/L	4	ND	ND	ND	0.0001	0.03	0.004	✓
Tetrachloroethene	mg/L	4	ND	ND	ND	0.0001	0.05		✓

Toluene	mg/L	4	ND	ND	ND	0.0001	0.8	0.03	√
1,2-dichloroethene (cis + trans)	mg/L	4	ND	ND	ND	0.0001	0.06		√
Trichloroethene	mg/L	4	ND	ND	ND	0.0001	0.03		√

Halo Acetic Acids (HAAs)									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Bromoacetic Acid	mg/L	12	ND	ND	ND	0.0005			
Bromochloroacetic Acid	mg/L	12	ND	ND	ND	0.0005			
Dibromoacetic Acid	mg/L	12	ND	ND	ND	0.0005			
Dichloroacetic Acid	mg/L	12	ND	ND	ND	0.0005	0.05		√
Trichloroacetic Acid	mg/L	12	ND	ND	ND	0.0005	0.2		√
HAA Sum Ratio		12	0.08	0.00	0.04				

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-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	0.002		√
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	ND	ND	ND	0.002			
Alkalinity (Total) as CaCO ₃	mg/L	5	84.00	65.00	72.40	1			
Aluminium	mg/L	10	0.03	ND	ND	0.005	1	0.1	√
Bromate	mg/L	13	ND	ND	ND	0.01	0.01		√
Bromide	mg/L	13	0.03	0.02	0.03	0.005			
Calcium	mg/L	5	14.0	12.0	13.2	0.01			
Calcium Hardness	mg/L	5	36	31	33	0.025			
Chlorate	mg/L	13	ND	ND	ND	0.01	0.8		√
Chloride	mg/L	5	98.60	48.00	82.00	0.02		250	
Chlorine Residual	mg/L	112	1.51	0.55	0.92	0.02	5	0.3-1.0	√
Chlorite	mg/L	13	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	2	5.00	ND	2.50	5		15	
Conductivity	mS/m	2	44.3	42.9	43.6	0.5			
Cyanide	mg/L	2	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	5	0.07	0.02	0.05	0.02	1.5		√
Iodide	mg/L	2	0.01	0.01	0.01	0.001			
Iron	mg/L	10	0.01	ND	ND	0.002		0.3	
Magnesium	mg/L	5	13.00	12.00	12.80	0.001			
Magnesium Hardness	mg/L	5	54.00	48.00	51.80	0.0041			
Manganese	mg/L	10	ND	ND	ND	0.0005	0.4	0.04	√
pH	pH Units	112	8.10	7.10	7.61	0.1		7.0-8.5	
Potassium	mg/L	2	1.50	1.50	1.50	0.05			
Silicon	mg/L	2	39.0	38.0	38.5	0.1			
Sodium	mg/L	2	49.0	44.0	46.5	0.1		200	
Sulphate	mg/L	2	0,04	0.03	0.04	0.02		250	
Suspended Solids	mg/L	2	ND	ND	ND	0.2			
Total Dissolved Solids	mg/L	2	290	280	285	15		1000	
Total Hardness	mg/L	5	89.00	80.00	84.80	0.029		200	
Total Organic Carbon TOC	mg/L	13	7.50	0.00	0.61	0.1			
Turbidity	NTU	112	0.55	0.00	0.07	0.05		5	

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
<i>E. coli</i>	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	5	0.01	ND	ND	0.005		1.5	
Nitrate (as NO ₃)	mg/L	53	1.14	0.44	0.77	0.009	50		√
Nitrite (as NO ₂)	mg/L	2	ND	ND	ND	0.007	3		√
TKN (Total Kjeldahl Nitrogen)	mg/L	2	ND	ND	ND	0.1			
Total Phosphorus	mg/L	2	0.01	0.00	0.00	0.005			

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

Semi Volatile Organic Compounds									
Organochlorine Pesticides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Aldrin + Dieldrin	µg/L	5	ND	ND	ND	0.01	0.04		√
Chlordane	µg/L	5	ND	ND	ND	0.01	0.2		√
Lindane	µg/L	5	ND	ND	ND	0.01	2		√
Heptachlor	µg/L	5	ND	ND	ND	0.01			
Heptachlor epoxide	µg/L	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	5	ND	ND	ND	0.1			
Methoxychlor	µg/L	13	ND	ND	ND	0.2	20		√
Permethrin (cis + trans)	µg/L	5	ND	ND	ND	0.2			
DDT + isomers	µg/L	5	ND	ND	ND	0.2	1		√
Procymidone	µg/L	5	ND	ND	ND	0.2	700		√
Organonitrogen Herbicides									
Alachlor	µg/L	13	ND	ND	ND	0.2	20		√
Atrazine	µg/L	18	ND	ND	ND	0.1	100		√
Metolachlor	µg/L	18	ND	ND	ND	0.1	10		√
Molinate	µg/L	18	ND	ND	ND	0.1	7		√
Pendimethalin	µg/L	13	ND	ND	ND	0.2	20		√
Propanil	µg/L	18	ND	ND	ND	0.1			
Simazine	µg/L	18	ND	ND	ND	0.1	2		√
Terbuthylazine	µg/L	5	ND	ND	ND	0.2	8		√
Trifluralin	µg/L	5	ND	ND	ND	0.2	30		√
Organophosphorus Pesticides									
Chlorpyrifos	µg/L	13	ND	ND	ND	0.2	40		√
Diazinon	µg/L	18	ND	ND	ND	0.1			
Pirimiphos methyl	µg/L	5	ND	ND	ND	0.2	100		√
Trace Elements									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Antimony	mg/L	2	ND	ND	ND	0.001	0.02		√
Arsenic	mg/L	2	ND	ND	ND	0.0001	0.01		√
Barium	mg/L	2	ND	ND	ND	0.0002	1.5		√
Boron	mg/L	2	0.01	0.01	0.01	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	5	ND	ND	ND		0.05		√
Copper	mg/L	5	0.01	0.01	0.01		2	1	√
Lead	mg/L	2	ND	ND	ND		0.01		√
Lithium	mg/L	2	ND	ND	ND				
Mercury	mg/L	2	ND	ND	ND		0.007		√
Molybdenum	mg/L	2	ND	ND	ND				
Nickel	mg/L	2	ND	ND	ND		0.08		√
Selenium	mg/L	2	ND	ND	ND		0.04		√
Zinc	mg/L	2	ND	ND	ND			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		0.06		√
Bromoform	mg/L	13	ND	ND	ND		0.1		√
Chloroform	mg/L	13	ND	ND	ND		0.4		√
Dibromochloromethane	mg/L	13	ND	ND	ND		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	5	ND	ND	ND				
1,2,3-trichlorobenzene	mg/L	5	ND	ND	ND			0.01	
1,2,4-trichlorobenzene	mg/L	5	ND	ND	ND			0.005	
1,2-dichlorobenzene	mg/L	5	ND	ND	ND		1.5	0.001	√
1,2-dichloroethane	mg/L	5	ND	ND	ND		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	ND	ND	ND	ND	0.0001	0.4	0.0003	√
Benzene	mg/L	ND	ND	ND	ND	0.0001	0.01		√
Carbon tetrachloride	mg/L	ND	ND	ND	ND	0.0001	0.005		√
Ethylbenzene	mg/L	ND	ND	ND	ND	0.0001	0.3	0.002	√
Xylenes (total)	mg/L	ND	ND	ND	ND	0.0001	0.6	0.02	√
Styrene	mg/L	ND	ND	ND	ND	0.0001	0.03	0.004	√
Tetrachloroethene	mg/L	ND	ND	ND	ND	0.0001	0.05		√
Toluene	mg/L	ND	ND	ND	ND	0.0001	0.8	0.03	√
Trichloroethene	mg/L	ND	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	5	ND	ND	ND	0.0005			
Bromochloroacetic Acid	mg/L	5	ND	ND	ND	0.0005			
Dibromoacetic Acid	mg/L	5	ND	ND	ND	0.0005			
Dichloroacetic Acid	mg/L	5	ND	ND	ND	0.0005	0.05		√
Trichloroacetic Acid	mg/L	5	ND	ND	ND	0.0005	0.2		√
HAA Sum Ratio		5	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	6	ND	ND	ND	0.002			
Alkalinity (Total) as CaCO ₃	mg/L	4	140	130	133	1			
Aluminium	mg/L	2	ND	ND	ND	0.005	1	0.1	✓
Bromate	mg/L	12	ND	ND	ND	0.005	0.01		✓
Bromide	mg/L	12	0.11	0.09	0.10	0.005			
Calcium	mg/L	12	34.00	30.00	32.25	0.010			
Calcium Hardness	mg/L	12	86	75	81	0.025			
Chlorate	mg/L	12	0.02	0.00	0.00	0.010	0.8		✓
Chloride	mg/L	1	34.10	34.10	34.10	0.020		250	
Chlorine Residual	mg/L	103	1.38	0.55	1.01	0.020	5	0.3-1.0	✓
Chlorite	mg/L	12	ND	ND	ND	0.005	0.8		✓
Colour	Hazen Units	1	ND	ND	ND	5		15	
Conductivity	mS/m	1	36.30	36.30	36.30	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	ND	ND	ND	0.001			
Iron	mg/L	24	ND	ND	ND	0.002		0.3	
Magnesium	mg/L	12	11.00	9.10	9.86	0.001			
Magnesium Hardness	mg/L	12	44.00	37.00	40.67	0.004			
Manganese	mg/L	24	ND	ND	ND	0.0005	0.4	0.04	✓
pH	pH Units	103	8.20	7.50	7.98	0.100		7.0-8.5	
Potassium	mg/L	1	3.50	3.50	3.50	0.05			
Silicon	mg/L	1	49.00	49.00	49.00	0.100			
Sodium	mg/L	1	21.00	21.00	21.00	0.100		200	
Sulphate	mg/L	1	5.24	5.24	5.24	0.020		250	

Chemical and Physical cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Suspended Solids	Mg/L	1	ND	ND	ND				
Total Dissolved Solids	mg/L	1	240.00	240.00	240.00	15.000		1000	
Total Hardness	mg/L	12	130.00	110.00	120.83	0.029		200	
Turbidity	NTU	103	0.30	0.00	0.03	0.05		5	

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

Nutrients									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Ammonia	mg/L	1	ND	ND	ND	0.005		1.5	
Nitrate (as NO ₃)	mg/L	1	0.02	0.02	0.02	0.009	50		√
Nitrite (as NO ₂)	mg/L	1	ND	ND	ND	0.007	3		√
TKN (Total Kjeldahl Nitrogen)	mg/L	1	ND	ND	ND	0.1			
Total Phosphorus	mg/L	1	0.04	0.04	0.04	0.005			

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

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

Semi Volatile Organic Compounds cont.									
Organophosphorus pesticides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Chlorpyrifos	µg/L	1	ND	ND	ND	0.2	40		√
Diazinon	µg/L	1	ND	ND	ND	0.1			
Pirimiphos methyl	µg/L	1	ND	ND	ND	0.2	100		√

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

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

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

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

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Chemical and Physical									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
UV absorbance at 254nm	Abs units	6	ND	ND	ND	0.002			
Alkalinity (Total) as CaCO ₃	mg/L	4	140	130	133	1			
Aluminium	mg/L	2	ND	ND	ND	0.005	1	0.1	✓
Bromate	mg/L	12	ND	ND	ND	0.005	0.01		✓
Bromide	mg/L	12	0.11	0.09	0.10	0.005			
Calcium	mg/L	12	34.00	30.00	32.25	0.010			
Calcium Hardness	mg/L	12	86	75	81	0.025			
Chlorate	mg/L	12	0.02	0.00	0.00	0.010	0.8		✓
Chloride	mg/L	1	34.10	34.10	34.10	0.020		250	
Chlorine Residual	mg/L	103	1.38	0.55	1.01	0.020	5	0.3-1.0	✓
Chlorite	mg/L	12	ND	ND	ND	0.005	0.8		✓
Colour	Hazen Units	1	ND	ND	ND	5		15	
Conductivity	mS/m	1	36.30	36.30	36.30	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	ND	ND	ND	0.001			
Iron	mg/L	24	ND	ND	ND	0.002		0.3	
Magnesium	mg/L	12	11.00	9.10	9.86	0.001			
Magnesium Hardness	mg/L	12	44.00	37.00	40.67	0.004			
Manganese	mg/L	24	ND	ND	ND	0.0005	0.4	0.04	✓
pH	pH Units	103	8.20	7.50	7.98	0.100		7.0-8.5	
Potassium	mg/L	1	3.50	3.50	3.50	0.05			
Silicon	mg/L	1	49.00	49.00	49.00	0.100			
Sodium	mg/L	1	21.00	21.00	21.00	0.100		200	
Sulphate	mg/L	1	5.24	5.24	5.24	0.020		250	

Chemical and Physical cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Suspended Solids	Mg/L	1	ND	ND	ND				
Total Dissolved Solids	mg/L	1	240.00	240.00	240.00	15.000		1000	
Total Hardness	mg/L	12	130.00	110.00	120.83	0.029		200	
Turbidity	NTU	103	0.30	0.00	0.03	0.05		5	

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

Nutrients									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Ammonia	mg/L	1	ND	ND	ND	0.005		1.5	
Nitrate (as NO ₃)	mg/L	1	0.02	0.02	0.02	0.009	50		√
Nitrite (as NO ₂)	mg/L	1	ND	ND	ND	0.007	3		√
TKN (Total Kjeldahl Nitrogen)	mg/L	1	ND	ND	ND	0.1			
Total Phosphorus	mg/L	1	0.04	0.04	0.04	0.005			

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

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

Semi Volatile Organic Compounds cont.									
Organophosphorus pesticides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Chlorpyrifos	µg/L	1	ND	ND	ND	0.2	40		√
Diazinon	µg/L	1	ND	ND	ND	0.1			
Pirimiphos methyl	µg/L	1	ND	ND	ND	0.2	100		√

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

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

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

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

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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	19	ND	ND	ND	0.0001	0.01		√
2,4-Dichlorophenoxyacetic acid (2,4-D)	mg/L	19	ND	ND	ND	0.0001	0.04		√
4-(2,4-dichlorophenoxy) butanoic acid (2,4-DB)	mg/L	19	ND	ND	ND	0.0001	0.1		√
Bentazone	mg/L	19	ND	ND	ND	0.0001			
Dichlorprop	mg/L	19	ND	ND	ND	0.0001	0.1		√
MCPA	mg/L	19	ND	ND	ND	0.0001	0.8		√
Mecoprop	mg/L	19	ND	ND	ND	0.0001	0.01		√
Picloram	mg/L	19	ND	ND	ND	0.0001	0.2		√
Triclopyr	mg/L	19	ND	ND	ND	0.0001	0.1		√

Chemical and Physical									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
UV absorbance at 254nm	Abs units	52	0.03	ND	0.02	0.002			
Alkalinity (Total) as CaCO ₃	mg/L	52	100.00	21.00	63.08	1			
Aluminium	mg/L	104	0.02	0.01	0.01	0.005	1	0.1	√
Bromate	mg/L	4	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	4	0.17	0.10	0.12	0.005			
Calcium	mg/L	12	19.00	9.10	14.07	0.01			
Calcium Hardness	mg/L	12	47.00	23.00	35.33	0.025			
Chlorate	mg/L	4	ND	ND	ND	0.01	0.8		√
Chloride	mg/L	4	59.50	44.30	51.75	0.02		250	
Chlorine Residual	mg/L	104	1.84	0.63	1.26	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	12	ND	ND	ND	5		15	
Conductivity	mS/m	12	51.00	12.70	38.79	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	12	0.07	0.00	0.04	0.02	1.5		√
Iodide	mg/L	4	ND	ND	ND	0.001			
Iron	mg/L	104	0.01	ND	ND	0.002		0.3	
Magnesium	mg/L	12	16.00	5.70	11.82	0.001			
Magnesium Hardness	mg/L	12	67.00	23.00	49.00	0.0041			
Manganese	mg/L	104	0.03	ND	ND	0.0005	0.4	0.04	√
pH	pH Units	104	7.80	6.90	7.37	0.1		7.0-8.5	
Potassium	mg/L	4	3.10	2.30	2.85	0.05			
Silicon	mg/L	4	27.00	14.00	21.50	0.1			
Sodium	mg/L	4	52.00	33.00	43.50	0.1		200	
Sulphate	mg/L	4	59.70	37.00	51.55	0.02		250	
Suspended Solids	mg/L	12	ND	ND	ND	0.2			
Total Dissolved Solids	mg/L	12	310.00	150.00	244.17	15		1000	
Total Hardness	mg/L	12	110.00	46.00	83.75	0.029		200	
Total Organic Carbon TOC	mg/L	52	3.10	0.10	1.25	0.1			
Turbidity	NTU	104	0.80	0.00	0.08	0.05		5	

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
<i>E. coli</i>	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	0.06	ND	0.01	0.005		1.5	
Nitrate (as NO ₃)	mg/L	12	0.15	0.01	0.06	0.009	50		√
Nitrite (as NO ₂)	mg/L	12	ND	ND	ND	0.007	3		√
TKN (Total Kjeldahl Nitrogen)	mg/L	4	0.12	ND	0.03	0.1			
Total Phosphorus	mg/L	4	0.01	ND	ND	0.005			

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

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

Organochlorine Pesticides cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Hexachlorobenzene	µg/L	12	ND	ND	ND	0.1			
Methoxychlor	µg/L	12	ND	ND	ND	0.2	20		√
Permethrin (cis + trans)	µg/L	12	ND	ND	ND	0.2			
DDT + isomers	µg/L	12	ND	ND	ND	0.2	1		√
Procymidone	µg/L	12	ND	ND	ND	0.2	700		√
Organonitrogen Herbicides									
Alachlor	µg/L	12	ND	ND	ND	0.2	20		√
Atrazine	µg/L	24	ND	ND	ND	0.1	100		√
Metolachlor	µg/L	24	ND	ND	ND	0.1	10		√
Molinate	µg/L	24	ND	ND	ND	0.1	7		√
Pendimethalin	µg/L	12	ND	ND	ND	0.2	20		√
Propanil	µg/L	24	ND	ND	ND	0.1			
Simazine	µg/L	24	ND	ND	ND	0.1	2		√
Terbuthylazine	µg/L	24	ND	ND	ND	0.2	8		√
Trifluralin	µg/L	12	ND	ND	ND	0.2	30		√
Organophosphorus Pesticides									
Chlorpyrifos	µg/L	12	ND	ND	ND	0.2	40		√
Diazinon	µg/L	24	ND	ND	ND	0.1			
Pirimiphos methyl	µg/L	12	ND	ND	ND	0.2	100		√
Trace Elements									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Antimony	mg/L	4	ND	ND	ND	0.001	0.02		√
Arsenic	mg/L	12	ND	ND	ND	0.0001	0.01		√
Barium	mg/L	4	0.03	0.02	0.03	0.0002	1.5		√
Boron	mg/L	4	0.03	0.02	0.03	0.005	2.4		√
Cadmium	mg/L	4	ND	ND	ND	0.00005	0.004		√

Trace Elements cont.									
Chromium	mg/L	12	ND	ND	ND	0.0001	0.05		√
Copper	mg/L	4	ND	ND	ND	0.0002	2	1	√
Lead	mg/L	12	ND	ND	ND	0.0001	0.01		√
Lithium	mg/L	4	ND	ND	ND	0.0001			
Mercury	mg/L	4	ND	ND	ND	0.00005	0.007		√
Molybdenum	mg/L	4	ND	ND	ND	0.0003			
Nickel	mg/L	4	ND	ND	ND	0.0001	0.08		√
Selenium	mg/L	4	ND	ND	ND	0.0005	0.04		√
Zinc	mg/L	4	ND	ND	ND	0.001		1.5	

Trihalomethanes									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Bromodichloromethane	mg/L	52	0.02	ND	ND	0.0001	0.06		√
Bromoform	mg/L	52	0.01	ND	ND	0.0001	0.1		√
Chloroform	mg/L	52	0.01	ND	ND	0.0001	0.4		√
Dibromochloromethane	mg/L	52	0.02	ND	0.01	0.0001	0.15		√
THM Sum Ratio		52	0.51	ND	0.13		1		√

Volatile Organic Compounds									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
1,1,1-trichloroethane	mg/L	12	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	12	ND	ND	ND	0.0001		0.01	
1,2,4-trichlorobenzene	mg/L	12	ND	ND	ND	0.0001		0.005	
1,2-dichlorobenzene	mg/L	12	ND	ND	ND	0.0001	1.5	0.001	√
1,2-dichloroethane	mg/L	12	ND	ND	ND	0.0001	0.03		√
1,4-dichlorobenzene	mg/L	12	ND	ND	ND	0.0001	0.4	0.0003	√
Benzene	mg/L	12	ND	ND	ND	0.0001	0.01		√
Carbon tetrachloride	mg/L	12	ND	ND	ND	0.0001	0.005		√

Volatile Organic Compounds cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Ethylbenzene	mg/L	12	ND	ND	ND	0.0001	0.3	0.002	√
Xylenes (total)	mg/L	12	ND	ND	ND	0.0001	0.6	0.02	√
Styrene	mg/L	12	ND	ND	ND	0.0001	0.03	0.004	√
Tetrachloroethene	mg/L	12	ND	ND	ND	0.0001	0.05		√
Toluene	mg/L	12	ND	ND	ND	0.0001	0.8	0.03	√
1,2-dichloroethene (cis + trans)	mg/L	12	ND	ND	ND	0.0001	0.06		√
Trichloroethene	mg/L	12	ND	ND	ND	0.0001	0.03		√

Halo Acetic Acids (HAAs)									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit*	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Bromoacetic Acid	mg/L	4	ND	ND	ND	0.001			
Bromochloroacetic Acid	mg/L	4	ND	ND	ND	0.001			
Dibromoacetic Acid	mg/L	4	ND	ND	ND	0.001			
Dichloroacetic Acid	mg/L	4	ND	ND	ND	0.001	0.05		√
Trichloroacetic Acid	mg/L	4	ND	ND	ND	0.001	0.2		√
HAA Sum Ratio		4	0.02	0.00	0.01				

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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-dichlorophenoxy) 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 (MCP)	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	0.08	0.01	0.01	0.002			
Alkalinity (Total) as CaCO ₃	mg/L	52	36.00	22.00	26.54	1			
Aluminium	mg/L	104	0.09	ND	ND	0.005	1	0.1	√
Bromate	mg/L	55	0.01	ND	ND	0.005	0.01		√
Bromide	mg/L	55	0.05	0.03	0.04	0.005			
Calcium	mg/L	12	5.70	4.90	5.22	0.01			
Calcium Hardness	mg/L	12	14.00	12.00	12.83	0.025			
Chlorate	mg/L	55	0.13	0.04	0.07	0.01	0.8		√
Chloride	mg/L	4	31.40	28.70	30.05	0.02		250	
Chlorine Residual	mg/L	104	1.55	0.77	1.18	0.02	5	0.3-1.0	√

Chemical and Physical cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Chlorite	mg/L	55	ND	ND	ND	0.005	0.8		√
Colour	Hazen Units	12	5.00	ND	0.83	5		15	
Conductivity	mS/m	12	19.69	14.40	16.52	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	12	0.03	ND	0.01	0.02	1.5		√
Iodide	mg/L	4	0.01	ND	ND	0.001			
Iron	mg/L	24	0.07	ND	0.01	0.001		0.3	
Magnesium	mg/L	12	3.60	2.90	3.21	0.001			
Magnesium Hardness	mg/L	12	15.00	12.00	13.17	0.0041			
Manganese	mg/L	24	ND	ND	ND	0.0005	0.4	0.04	√
pH	pH Units	104	7.90	7.20	7.58	0.1		7.0-8.5	
Potassium	mg/L	4	1.10	0.94	1.01	0.05			
Silicon	mg/L	4	15.00	14.00	14.25	0.1			
Sodium	mg/L	4	21.00	18.00	19.75	0.1		200	
Sulphate	mg/L	4	5.91	5.31	5.54	0.02		250	
Suspended Solids	mg/L	12	0.31	ND	0.04	0.2			
Total Hardness	mg/L	12	29.00	24.00	26.25	0.1		200	
Total Organic Carbon TOC	mg/L	12	2.80	0.70	1.01	0.1			
Turbidity	NTU	104	0.75	0.00	0.06	0.05		5	

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
<i>E. coli</i>	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	
Nitrate (as NO ₃)	mg/L	4	0.04	0.02	0.03	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		√

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		√
Terbutylazine	µg/L	4	ND	ND	ND	0.2	8		√
Trifluralin	µg/L	4	ND	ND	ND	0.2	30		√
Organophosphorus Pesticides									
Chlorpyrifos	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	5	ND	ND	ND	0.001	0.02		√
Arsenic	mg/L	5	0.00	0.00	0.00	0.0001	0.01		√
Barium	mg/L	5	ND	ND	ND	0.0002	1.5		√
Boron	mg/L	4	0.02	0.01	0.01	0.005	2.4		√
Cadmium	mg/L	5	0.00	0.00	0.00	0.00005	0.004		√
Chromium	mg/L	5	ND	ND	ND	0.0001	0.05		√

Trace Elements cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Copper	mg/L	5	ND	ND	ND	0.0002	2	1	√
Lead	mg/L	5	ND	ND	ND	0.0001	0.01		√
Lithium	mg/L	4	ND	ND	ND	0.0001			
Mercury	mg/L	5	0.000083	0.00	0.0000166	0.00005	0.007		√
Molybdenum	mg/L	4	ND	ND	ND	0.0003			
Nickel	mg/L	4	0.00	0.00	0.0000825	0.0001	0.08		√
Selenium	mg/L	5	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	53	0.01	0.00	0.00	0.0001	0.06		√
Bromoform	mg/L	53	0.01	0.00	0.00	0.0001	0.1		√
Chloroform	mg/L	53	0.01	0.00	0.00	0.0001	0.4		√
Dibromochloromethane	mg/L	53	0.01	0.00	0.01	0.0001	0.15		√
THM Sum Ratio		53	0.33	0.08	0.15		1		√

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Volatile Organic Compounds									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
1,1,1-trichloroethane	mg/L	5	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	5	ND	ND	ND	0.0001		0.01	
1,2,4-trichlorobenzene	mg/L	5	ND	ND	ND	0.0001		0.005	
1,2-dichlorobenzene	mg/L	5	ND	ND	ND	0.0001	1.5	0.001	√
1,2-dichloroethane	mg/L	5	ND	ND	ND	0.0001	0.03		√
1,4-dichlorobenzene	mg/L	5	ND	ND	ND	0.0001	0.4	0.0003	√
Benzene	mg/L	5	ND	ND	ND	0.0001	0.01		√
Carbon tetrachloride	mg/L	5	ND	ND	ND	0.0001	0.005		√

Volatile Organic Compounds cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Ethylbenzene	mg/L	5	ND	ND	ND	0.0001	0.3	0.002	√
Xylenes (total)	mg/L	5	ND	ND	ND	0.0001	0.6	0.02	√
Styrene	mg/L	5	ND	ND	ND	0.0001	0.03	0.004	√
Tetrachloroethene	mg/L	5	ND	ND	ND	0.0001	0.05		√
Toluene	mg/L	5	ND	ND	ND	0.0001	0.8	0.03	√
1,2-dichloroethene (cis + trans)	mg/L	5	ND	ND	ND	0.0001	0.06		√
Trichloroethene	mg/L	5	ND	ND	ND	0.0001	0.03		√

Halo Acetic Acids (HAAs)									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit*	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Bromoacetic Acid	mg/L	4	ND	ND	ND	0.001			
Bromochloroacetic Acid	mg/L	4	ND	ND	ND	0.001			
Dibromoacetic Acid	mg/L	4	ND	ND	ND	0.001			
Dichloroacetic Acid	mg/L	4	ND	ND	ND	0.001	0.05		√
Trichloroacetic Acid	mg/L	4	ND	ND	ND	0.001	0.2		√
HAA Sum Ratio		4	0.03	0.00	0.01				

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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-dichlorophenoxy) 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	53	0.03	0.01	0.02	0.002			
Alkalinity (Total) as CaCO ₃	mg/L	53	27.00	16.00	20.85	1			
Aluminium	mg/L	106	0.04	0.01	0.02	0.005	1	0.1	√
Bromate	mg/L	4	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	4	0.04	0.01	0.03	0.005			
Calcium	mg/L	12	11.00	9.30	9.82	0.01			
Calcium Hardness	mg/L	12	27.00	23.00	24.92	0.025			
Chlorate	mg/L	4	0.01	ND	ND	0.01	0.8		√
Chloride	mg/L	4	22.70	20.40	21.65	0.02		250	
Chlorine Residual	mg/L	365	1.56	0.62	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	12	5.00	ND	0.83	5		15	
Conductivity	mS/m	12	16.20	14.20	15.31	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	53	0.93	0.66	0.81	0.02	1.5		√
Iodide	mg/L	4	0.01	ND	ND	0.001			
Iron	mg/L	106	0.19	ND	0.02	0.001		0.3	
Magnesium	mg/L	12	3.40	2.60	2.88	0.001			
Magnesium Hardness	mg/L	12	14.00	11.00	11.83	0.0041			
Manganese	mg/L	106	0.03	ND	ND	0.0005	0.4	0.04	√
pH	pH Units	365	7.80	7.10	7.42	0.1		7.0-8.5	
Potassium	mg/L	4	0.98	0.89	0.92	0.05			
Silicon	mg/L	4	17.00	13.00	14.75	0.1			
Sodium	mg/L	4	14.00	12.00	13.00	0.1		200	
Sulphate	mg/L	4	16.90	14.70	16.20	0.02		250	
Suspended Solids	mg/L	12	0.45	ND	0.17	0.2			
Total Hardness	mg/L	12	39.00	34.00	36.58	0.029		200	
Total Organic Carbon TOC	mg/L	13	2.30	0.60	1.09	0.1			
Turbidity	NTU	365	0.45	0.10	0.20	0.05		5	

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
<i>E. coli</i>	cfu/100mL	365	ND	ND	ND	1	<1		√

Nutrients									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Ammonia	mg/L	4	ND	ND	ND	0.005		1.5	
Nitrate (as NO ₃)	mg/L	4	0.06	0.02	0.03	0.009	50		√
Nitrite (as NO ₂)	mg/L	4	ND	ND	ND	0.007	3		√
TKN (Total Kjeldahl Nitrogen)	mg/L	4	ND	ND	ND	0.1			
Total Phosphorus	mg/L	4	0.01	ND	0.01	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		√

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		√
Terbutylazine	µg/L	4	ND	ND	ND	0.2	8		√
Trifluralin	µg/L	4	ND	ND	ND	0.2	30		√
Organophosphorus Pesticides									
Chlorpyrifos	µg/L	4	ND	ND	ND	0.2	40		√
Diazinon	µg/L	4	ND	ND	ND	0.1			
Pirimiphos-methyl	µg/L	4	ND	ND	ND	0.2	100		√

Trace Elements									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Antimony	mg/L	4	ND	ND	ND	0.001	0.02		√
Arsenic	mg/L	4	ND	ND	ND	0.0001	0.01		√
Barium	mg/L	4	ND	ND	ND	ND	ND	ND	√
Boron	mg/L	4	0.01	0.01	0.01	0.005	2.4		√
Cadmium	mg/L	4	ND	ND	ND	0.00005	0.004		√
Chromium	mg/L	4	ND	ND	ND	0.0001	0.05		√
Copper	mg/L	4	ND	ND	ND	0.0002	2	1	√
Lead	mg/L	4	ND	ND	ND	0.0001	0.01		√
Lithium	mg/L	4	ND	ND	ND	0.0001			
Mercury	mg/L	4	0.000053	ND	0.0000133	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	4	ND	ND	ND	0.0001	0.08		✓
Selenium	mg/L	4	ND	ND	ND	0.0005	0.04		✓
Zinc	mg/L	4	ND	ND	ND	0.001		1.5	

Trihalomethanes									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Bromodichloromethane	mg/L	53	ND	ND	ND	0.0001	0.06		✓
Bromoform	mg/L	53	ND	ND	ND	0.0001	0.1		✓
Chloroform	mg/L	53	ND	ND	ND	0.0001	0.4		✓
Dibromochloromethane	mg/L	53	0.01	ND	0.01	0.0001	0.15		✓
THM Sum Ratio		53	0.25	0.09	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	4	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	4	ND	ND	ND	0.0001		0.01	
1,2,4-trichlorobenzene	mg/L	4	ND	ND	ND	0.0001		0.005	
1,2-dichlorobenzene	mg/L	4	ND	ND	ND	0.0001	1.5	0.001	✓
1,2-dichloroethane	mg/L	4	ND	ND	ND	0.0001	0.03		✓
1,4-dichlorobenzene	mg/L	4	ND	ND	ND	0.0001	0.4	0.0003	✓
Benzene	mg/L	4	ND	ND	ND	0.0001	0.01		✓
Carbon tetrachloride	mg/L	4	ND	ND	ND	0.0001	0.005		✓
Ethylbenzene	mg/L	4	ND	ND	ND	0.0001	0.3	0.002	✓
Xylenes (total)	mg/L	4	ND	ND	ND	0.0001	0.6	0.02	✓
Styrene	mg/L	4	ND	ND	ND	0.0001	0.03	0.004	✓

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

Halo Acetic Acids (HAAs)									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit*	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Bromoacetic Acid	mg/L	4	ND	ND	ND	0.001			
Bromochloroacetic Acid	mg/L	4	ND	ND	ND	0.001			
Dibromoacetic Acid	mg/L	4	ND	ND	ND	0.001			
Dichloroacetic Acid	mg/L	4	ND	ND	ND	0.001	0.05		√
Trichloroacetic Acid	mg/L	4	ND	ND	ND	0.001	0.2		√
HAA Sum Ratio		4	0.07	0,00	0.04				

Muriwai WTP Treated Water

Acid Herbicides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
2,4,5- trichlorophenoxyacetic acid (2,4,5-T)	mg/L	4	ND	ND	ND	0.0001	0.01		√
2,4-Dichlorophenoxyacetic acid (2,4-BD)	mg/L	4	ND	ND	ND	0.0001	0.04		√
4-(2,4-dichlorophenoxy) 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 (MCP)	mg/L	4	ND	ND	ND	0.0001	0.01		√
Picloram	mg/L	4	ND	ND	ND	0.0001	0.2		√
Triclopyr	mg/L	4	ND	ND	ND	0.0001	0.1		√

Chemical and Physical									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
UV absorbance at 254nm	Abs units	12	ND	ND	ND	0.002			
Alkalinity (Total) as CaCO ₃	mg/L	4	91.00	78.00	83.00	1			
Bromate	mg/L	52	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	52	0.30	0.20	0.25	0.005			
Calcium	mg/L	4	9.80	8.40	9.20	0.01			
Calcium Hardness	mg/L	4	24.00	21.00	22.75	0.025			
Chlorate	mg/L	52	0.27	0.06	0.14	0.01	0.8		√
Chlorine Residual	mg/L	104	1.41	0.57	0.95	0.02	5	0.3-1.0	√
Chlorite	mg/L	52	ND	ND	ND	0.005	0.8		√
Colour	Hazen Units	1	ND	ND	ND	5		15	
Iron	mg/L	8	0.02	ND	ND	0.002		0.3	

Magnesium	mg/L	4	7.90	6.10	7.40	0.001			
Chemical and Physical cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Magnesium Hardness	mg/L	4	32.00	25.00	30.25	0.0041			
Manganese	mg/L	8	ND	ND	ND	0.0005	0.4	0.04	√
pH	pH Units	104	7.60	6.90	7.38	0.1		7.0-8.5	
Suspended Solids	mg/L	4	ND	ND	ND	0.2			
Total Dissolved Solids	mg/L	4	320.00	280.00	302.50	15		1000	
Total Hardness	mg/L	4	57.00	46.00	53.50	0.029		200	
Total Organic Carbon TOC	mg/L	12	0.30	ND	0.13	0.1			
Turbidity	NTU	104	0.65	0.00	0.04	0.05		5	

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
<i>E. coli</i>	cfu/100mL	104	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	4	ND	ND	ND	0.005		1.5	
Nitrate (as NO ₃)	mg/L	4	0.93	0.41	0.67	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	0.06	0.04	0.05	0.005			

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

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

Halo Acetic Acids (HAAs)									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Bromoacetic Acid	mg/L	4	ND	ND	ND	0.0005			
Bromochloroacetic Acid	mg/L	4	ND	ND	ND	0.0005			
Monochloroacetic Acid	mg/L	4	0.07	0.03	0.05	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				

Papakura WTP Treated Water

This WTP supplies Veolia Water Papakura Distribution Networks.

Acid Herbicides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
1080 (Sodium fluoroacetate)	mg/L	3	ND	ND	ND	0.0001	0.035 ¹		√
2,4,5- trichlorophenoxyacetic acid (2,4,5-T)	mg/L	27	ND	ND	ND	0.0001	0.01		√
2,4-Dichlorophenoxyacetic acid (2,4-BD)	mg/L	27	ND	ND	ND	0.0001	0.04		√
4-(2,4-dichlorophenoxy) butanoic acid (2,4-DB)	mg/L	27	ND	ND	ND	0.0001	0.1		√
Bentazone	mg/L	27	ND	ND	ND	0.0001			
Dichlorprop	mg/L	27	ND	ND	ND	0.0001	0.1		√
MCPA	mg/L	27	ND	ND	ND	0.0001	0.8		√
Mecoprop	mg/L	27	ND	ND	ND	0.0001	0.01		√
Picloram	mg/L	27	ND	ND	ND	0.0001	0.2		√
Triclopyr	mg/L	27	ND	ND	ND	0.0001	0.1		√

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

Chemical and Physical									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
UV absorbance at 254nm	Abs units	53	0.02	0.01	0.01	0.002			
Alkalinity (Total) as CaCO ₃	mg/L	53	23.00	13.00	18.06	1			
Aluminium	mg/L	91	0.01	0.00	0.00	0.005	1	0.1	√
Bromate	mg/L	40	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	40	ND	ND	ND	0.005			
Calcium	mg/L	2	3.10	2.60	2.85	0.01			
Calcium Hardness	mg/L	9	8.00	6.50	7.44	0.025			
Chlorate	mg/L	40	0.21	0.05	0.11	0.01	0.8		√
Chloride	mg/L	13	26.50	22.50	24.22	0.02		250	

Chemical and Physical cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ202 2	AV DWQAR	Compliance DWSNZ2022
Chlorine Residual	mg/L	365	1.57	0.71	1.19	0.02	5	0.3-1.0	√
Chlorite	mg/L	40	ND	ND	ND	0.005	0.8		√
Colour	Hazen Units	13	ND	ND	ND	5		15	
Conductivity	mS/m	13	14.00	11.80	13.10	0.5			
Cyanide	mg/L	5	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	53	0,98	0.79	0.88	0.02	1.5		√
Iodide	mg/L	5	ND	ND	ND	0.001			
Iron	mg/L	91	0.02	ND	ND	0.002		0.3	
Magnesium	mg/L	9	1,70	1.30	1.51	0.001			
Magnesium Hardness	mg/L	9	6.90	5.20	6.29	0.0041			
Manganese	mg/L	22	0.01	ND	ND	0.0005	0.4	0.04	√
pH	pH Units	365	7.90	6.30	7.44	0.1		7.0-8.5	
Potassium	mg/L	9	1.80	1.40	1.60	0.05			
Silicon	mg/L	2	7.30	6.40	6.85	0.1			
Sodium	mg/L	2	1900	17.00	18.00	0.1		200	
Sulphate	mg/L	13	5.71	3.90	4.84	0.02		250	
Suspended Solids	mg/L	13	0.65	ND	0.07	0.2			
Total Dissolved Solids	mg/L	13	99.00	54.00	76.69			1000	
Total Hardness	mg/L	9	15.00	12.00	13.67	0.029		200	
Total Organic Carbon TOC	mg/L	13	1.20	0.50	0.89	0.1			
Turbidity	NTU	365	0.35	ND	0,07	0.05		5	

Microbiology cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ202 2	AV DWQAR	Compliance DWSNZ2022
<i>E. coli</i>	cfu/100mL	364	ND	ND	ND	1	<1		√

Nutrients									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Ammonia	mg/L	5	ND	ND	ND	0.005		1.5	
Nitrate (as NO ₃)	mg/L	13	0.37	0.17	0.25	0.009	50		√
Nitrite (as NO ₂)	mg/L	13	ND	ND	ND	0.007	3		√
TKN (Total Kjeldahl Nitrogen)	mg/L	13	0,21	ND	0.02	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	27	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	27	ND	ND	ND	2	9		√

Semi Volatile Organic Compounds									
Organochlorine Pesticides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Aldrin + Dieldrin	µg/L	27	ND	ND	ND	0.01	0.04		√
Chlordane	µg/L	27	ND	ND	ND	0.01	0.2		√
Lindane	µg/L	27	ND	ND	ND	0.01	2		√
Heptachlor	µg/L	27	ND	ND	ND	0.01			
Heptachlor epoxide	µg/L	27	ND	ND	ND	0.01			
Hexachlorobenzene	µg/L	27	ND	ND	ND	0.1			

Organochlorine Pesticides cont.									
Units	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Methoxychlor	µg/L	27	ND	ND	ND	0.2	20		√
Permethrin (cis + trans)	µg/L	27	ND	ND	ND	0.2			
DDT + isomers	µg/L	27	ND	ND	ND	0.2	1		√
Procymidone	µg/L	27	ND	ND	ND	0.2	700		√
Organonitrogen Herbicides									
Alachlor	µg/L	27	ND	ND	ND	0.2	20		√
Atrazine	µg/L	54	ND	ND	ND	0.1	100		√
Metolachlor	µg/L	54	ND	ND	ND	0.1	10		√
Molinate	µg/L	54	ND	ND	ND	0.1	7		√
Pendimethalin	µg/L	27	ND	ND	ND	0.2	20		√
Propanil	µg/L	54	ND	ND	ND	0.1			
Simazine	µg/L	54	ND	ND	ND	0.1	2		√
Terbutylazine	µg/L	27	ND	ND	ND	0.2	8		√
Trifluralin	µg/L	27	ND	ND	ND	0.2	30		√
Organophosphorus Pesticides									
Chlorpyrifos	µg/L	27	ND	ND	ND	0.2	40		√
Diazinon	µg/L	54	ND	ND	ND	0.1			
Pirimiphos methyl	µg/L	27	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	16	ND	ND	ND	0.001	0.02		√
Arsenic	mg/L	9	ND	ND	ND	0.0001	0.01		√
Barium	mg/L	9	0.02	0.01	0.01	0.0002	1.5		√
Boron	mg/L	9	0.02	0.01	0.01	0.005	2.4		√
Cadmium	mg/L	16	ND	ND	ND	0.00005	0.004		√
Chromium	mg/L	16	ND	ND	ND	0.0001	0.05		√

Trace Elements cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Copper	mg/L	16	ND	ND	ND	0.0002	2	1	✓
Lead	mg/L	16	ND	ND	ND	0.0001	0.01		✓
Lithium	mg/L	2	ND	ND	ND	0.0001			
Mercury	mg/L	16	ND	ND	ND	0.00005	0.007		✓
Molybdenum	mg/L	2	ND	ND	ND	0.0003			
Nickel	mg/L	16	ND	ND	ND	0.0001	0.08		✓
Selenium	mg/L	2	ND	ND	ND	0.0005	0.04		✓
Zinc	mg/L	2	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	53	ND	ND	ND	0.0001	0.06		✓
Bromoform	mg/L	53	ND	ND	ND	0.0001	0.1		✓
Chloroform	mg/L	53	ND	ND	ND	0.0001	0.4		✓
Dibromochloromethane	mg/L	53	0.01	ND	ND	0.0001	0.15		✓
THM Sum Ratio		53	0.16	0.06	0.10		1		✓

Volatile Organic Compounds									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
1,1,1-trichloroethane	mg/L	27	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	27	ND	ND	ND	0.0001		0.01	
1,2,4-trichlorobenzene	mg/L	27	ND	ND	ND	0.0001		0.005	
1,2-dichlorobenzene	mg/L	27	ND	ND	ND	0.0001	1.5	0.001	✓
1,2-dichloroethane	mg/L	27	ND	ND	ND	0.0001	0.03		✓
1,4-dichlorobenzene	mg/L	27	ND	ND	ND	0.0001	0.4	0.0003	✓
Benzene	mg/L	27	ND	ND	ND	0.0001	0.01		✓
Carbon tetrachloride	mg/L	27	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	27	ND	ND	ND	0.0001	0.3	0.002	√
Xylenes (total)	mg/L	27	ND	ND	ND	0.0001	0.6	0.02	√
Styrene	mg/L	27	ND	ND	ND	0.0001	0.03	0.004	√
Tetrachloroethene	mg/L	27	ND	ND	ND	0.0001	0.05		√
Toluene	mg/L	27	ND	ND	ND	0.0001	0.8	0.03	√
1,2-dichloroethene (cis + trans)	mg/L	27	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	13	ND	ND	ND	0.001			
Bromochloroacetic Acid	mg/L	13	ND	ND	ND	0.001			
Dibromoacetic Acid	mg/L	13	ND	ND	ND	0.001			
Dichloroacetic Acid	mg/L	13	ND	ND	ND	0.001	0.05		√
Trichloroacetic Acid	mg/L	13	0.00	0.00	ND	0.001	0.2		√
HAA Sum Ratio		13	0.07	0.00	0.03				

Pukekohe WTP Treated Water

** The Pukekohe WTP was out of service from February 2024 due to cyclone damage. This treatment water plant remained out of service until the end of the reporting period specified in the report. Compliance monitoring sampling was not undertaken while the treated water tank was isolated.*

Snells/Algies WTP Treated Water

Chemical and Physical									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
UV absorbance at 254nm	Abs units	1	0.01	0,01	0.01	0.002			
Alkalinity (Total) as CaCO ₃	mg/L	4	200.00	190.00	195.00	1			
Aluminium	mg/L	2	ND	ND	ND	0.005	1	0.1	✓
Bromate	mg/L	4	ND	ND	ND	0.005	0.01		✓
Bromide	mg/L	4	0.17	0.15	0.16	0.005			
Calcium	mg/L	4	4.50	4.10	4.32	0.01			
Calcium Hardness	mg/L	4	11.00	10.00	10,50	0.025			
Chlorate	mg/L	4	0.02	ND	ND	0.01	0.8		✓
Chloride	mg/L	1	55.10	55.10	55.10	0.02		250	
Chlorine Residual	mg/L	104	1.72	0.98	1.38	0.02	5	0.3-1.0	✓
Chlorite	mg/L	4	ND	ND	ND	0.005	0.8		✓
Colour	Hazen Units	1	ND	ND	ND	5		15	
Conductivity	mS/m	1	55.60	55.60	55.60	0.5			
Cyanide	mg/L	1	ND	ND	ND	0.005	0.6		✓
Fluoride	mg/L	1	0.12	0.12	0.12	0.02	1.5		✓
Iodide	mg/L	1	0,02	0.02	0.02	0.001			
Iron	mg/L	24	0.01	ND	ND	0.002		0.3	
Magnesium	mg/L	4	0.40	0.34	0.36	0.001			
Magnesium Hardness	mg/L	4	1.60	1.40	1.47	0.0041			
Manganese	mg/L	24	ND	ND	ND	0.0005	0.4	0.04	✓
pH	pH Units	104	8.40	8.10	8.28	0.1		7.0-8.5	
Potassium	mg/L	1	0.27	0.27	0.27	0.05			
Silicon	mg/L	1	44.00	44.00	44.00	0.1			
Sodium	mg/L	1	120.00	120.00	120.00	0.1		200	
Sulphate	mg/L	1	7.89	7.89	7.89	0.02		250	
Suspended Solids	mg/L	1	ND	ND	ND	0.2			

Chemical and Physical cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Total Dissolved Solids	mg/L	1	350.00	350.00	350.00	15			
Total Hardness	mg/L	4	13.00	12.00	12.50	0.029		200	
Total Organic Carbon TOC	mg/L	1	0.50	0.50	0.50	0.1			
Turbidity	NTU	104	0,20	0.00	0.04	0.05		5	

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
<i>E. coli</i>	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	0,01	0.01	0.01	0.005		1.5	
Nitrate (as NO ₃)	mg/L	1	0.01	0.01	0.01	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	0,09	0.09	0.09	0.005			

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

Trace Elements									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Antimony	mg/L	1	ND	ND	ND	0.001	0.02		√
Arsenic	mg/L	12	ND	ND	ND	0.0001	0.01		√
Barium	mg/L	1	ND	ND	ND	0.0002	1.5		√
Boron	mg/L	1	0.17	0.17	0.17	0.005	2.4		√
Cadmium	mg/L	1	ND	ND	ND	0.00005	0.004		√
Chromium	mg/L	1	ND	ND	ND	0.0001	0.05		√
Copper	mg/L	1	ND	ND	ND	0.0002	2	1	√
Lead	mg/L	1	ND	ND	ND	0.0001	0.01		√
Lithium	mg/L	1	0,03	0.03	0.03	0.0001			
Mercury	mg/L	1	ND	ND	ND	0.00005	0.007		√
Molybdenum	mg/L	1	ND	ND	ND	0.0003			
Nickel	mg/L	1	ND	ND	ND	0.0001	0.08		√
Selenium	mg/L	1	ND	ND	ND	0.0005	0.04		√
Zinc	mg/L	1	ND	ND	ND	0.001		1.5	

Trihalomethanes									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Bromodichloromethane	mg/L	12	ND	ND	ND	0.0001	0.06		√
Bromoform	mg/L	12	ND	ND	ND	0.0001	0.1		√
Chloroform	mg/L	12	ND	ND	ND	0.0001	0.4		√
Dibromochloromethane	mg/L	12	ND	ND	ND	0.0001	0.15		√
THM Ratio		12	0.08	0.02	0.03		1		√

Volatile Organic Compounds									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ202 2	AV DWQAR	Compliance DWSNZ2022
1,1,1-trichloroethane	mg/L	1	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	1	ND	ND	ND	0.0001		0.01	
1,2,4-trichlorobenzene	mg/L	1	ND	ND	ND	0.0001		0.005	
1,2-dichlorobenzene	mg/L	1	ND	ND	ND	0.0001	1.5	0.001	√
1,2-dichloroethane	mg/L	1	ND	ND	ND	0.0001	0.03		√
1,4-dichlorobenzene	mg/L	1	ND	ND	ND	0.0001	0.4	0.0003	√
Benzene	mg/L	1	ND	ND	ND	0.0001	0.01		√
Carbon tetrachloride	mg/L	1	ND	ND	ND	0.0001	0.005		√
Ethylbenzene	mg/L	1	ND	ND	ND	0.0001	0.3	0.002	√
Xylene	mg/L	1	ND	ND	ND	0.0001	0.6	0.02	√
Styrene	mg/L	1	ND	ND	ND	0.0001	0.03	0.004	√
Tetrachloroethene	mg/L	1	ND	ND	ND	0.0001	0.05		√
Toluene	mg/L	1	ND	ND	ND	0.0001	0.8	0.03	√
1,2-dichloroethene (cis + trans)	mg/L	1	ND	ND	ND	0.0001	0.06		√
Trichloroethene	mg/L	1	ND	ND	ND	0.0001	0.03		√

Victoria Avenue WTP Treated Water

Chemical and Physical									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Alkalinity (Total) as CaCO ₃	mg/L	4	140.00	130.00	132.50	1			
Aluminium	mg/L	2	ND	ND	ND	0.005	1	0.1	√
Bromate	mg/L	12	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	12	0.10	0.08	0.09	0.005			
Calcium	mg/L	12	33.00	27.00	29.75	0.01			
Calcium Hardness	mg/L	12	82.00	69.00	74.08	0.025			
Chlorate	mg/L	12	0.01	0.00	0.01	0.01	0.8		√
Chloride	mg/L	1	34.30	34.30	34.30	0.02		250	
Chlorine Residual	mg/L	101	1.52	0.51	0.92	0.02	5	0.3-1.0	√
Chlorite	mg/L	12	ND	ND	ND	0.005	0.8		√
Colour	Hazen Units	1	ND	ND	ND	5		15	
Conductivity	mS/m	1	35.90	35.90	35.90	0.5			
Cyanide	mg/L	1	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	1	0.03	0.03	0.03	0.02	1.5		√
Iodide	mg/L	1	ND	ND	ND	0.001			
Iron	mg/L	24	ND	ND	ND	0.002		0.3	
Magnesium	mg/L	12	10.00	8.00	9.11	0.001			
Magnesium Hardness	mg/L	12	41.00	31.00	37.58	0.0041			
Manganese	mg/L	24	ND	ND	ND	0.0005	0.4	0.04	√
pH	pH Units	101	8.10	7.70	7.90	0.1		7.0-8.5	
Potassium	mg/L	1	4.00	4.00	4.00	0.05			
Silicon	mg/L	1	48.00	48.00	48.00	0.1			
Sodium	mg/L	1	24.00	24.00	24.00	0.1		200	
Sulphate	mg/L	1	5.21	5.21	5.21	0.02		250	
Suspended Solids	mg/L	1	ND	ND	ND	0.2			

Chemical and Physical cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Total Dissolved Solids	mg/L	1	240	240	240	15		1000	
Total Hardness	mg/L	12	120.00	100.00	109.17	0.029		200	
Turbidity	NTU	101	0.25	0.00	0.09	0.05		5	

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
<i>E. coli</i>	cfu/100mL	101	ND	ND	ND	1	<1		√

Nutrients									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Ammonia	mg/L	1	ND	ND	ND	0.005		1.5	
Nitrate (as NO ₃)	mg/L	1	0.02	0.02	0.02	0.009	50		√
Nitrite (as NO ₂)	mg/L	1	ND	ND	ND	0.007	3		√
TKN (Total Kjeldahl Nitrogen)	mg/L	1	ND	ND	ND	0.1			
Total Phosphorus	mg/L	1	0.06	0.06	0.06	0.005			

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

Semi Volatile Organic Compounds									
Organochlorine Pesticides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Aldrin + Dieldrin	µg/L	1	ND	ND	ND	0.01	0.04		√
Chlordane	µg/L	1	ND	ND	ND	0.01	0.2		
Lindane	µg/L	1	ND	ND	ND	0.01	2		√
Heptachlor	µg/L	1	ND	ND	ND	0.01			
Heptachlor epoxide	µg/L	1	ND	ND	ND	0.01			
Hexachlorobenzene	µg/L	1	ND	ND	ND	0.1			
Methoxychlor	µg/L	1	ND	ND	ND	0.2	20		√
Permethrin (cis + trans)	µg/L	1	ND	ND	ND	0.2			
DDT + isomers	µg/L	1	ND	ND	ND	0.2	1		√
Procymidone	µg/L	1	ND	ND	ND	0.2	700		√
Organonitrogen Herbicides									
Alachlor	µg/L	1	ND	ND	ND	0.2	20		√
Atrazine	µg/L	1	ND	ND	ND	0.1	100		√
Metolachlor	µg/L	1	ND	ND	ND	0.1	10		√
Molinate	µg/L	1	ND	ND	ND	0.1	7		√
Pendimethalin	µg/L	1	ND	ND	ND	0.2	20		√
Propanil	µg/L	1	ND	ND	ND	0.1			
Simazine	µg/L	1	ND	ND	ND	0.1	2		√
Terbuthylazine	µg/L	1	ND	ND	ND	0.2	8		√
Trifluralin	µg/L	1	ND	ND	ND	0.2	30		√
Organophosphorus Pesticides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Chlorpyrifos	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 DWSNZ202 2	AV DWQAR	Compliance DWSNZ2022
Antimony	mg/L	1	ND	ND	ND	0.001	0.02		√
Arsenic	mg/L	13	0.01	ND	ND	0.0001	0.01		√
Barium	mg/L	1	ND	ND	ND	0.0002	1.5		√
Boron	mg/L	1	0.03	0.03	0.03	0.005	2.4		√
Cadmium	mg/L	1	ND	ND	ND	0.00005	0.004		√
Chromium	mg/L	1	ND	ND	ND	0.0001	0.05		√
Copper	mg/L	1	ND	ND	ND	0.0002	2	1	√
Lead	mg/L	1	ND	ND	ND	0.0001	0.01		√
Lithium	mg/L	1	0.01	0.01	0.01	0.0001			
Mercury	mg/L	1	ND	ND	ND	0.00005	0.007		√
Molybdenum	mg/L	1	ND	ND	ND	0.0003	0		
Nickel	mg/L	1	ND	ND	ND	0.0001	0.08		√
Selenium	mg/L	1	ND	ND	ND	0.0005	0.04		√
Zinc	mg/L	1	ND	ND	ND	0.001		1.5	

Trihalomethanes									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ202 2	AV DWQAR	Compliance DWSNZ2022
Bromodichloromethane	mg/L	12	ND	ND	ND	0.0001	0.06		√
Bromoform	mg/L	12	ND	ND	ND	0.0001	0.1		√
Chloroform	mg/L	12	ND	ND	ND	0.0001	0.4		√
Dibromochloromethane	mg/L	12	0.01	ND	ND	0.0001	0.15		√
THM Ratio		12	0.12	0.01	0.06		1		√

Volatile Organic Compounds									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ202 2	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-dichlorophenoxy) 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 set out two MAVs for 1080: for short-term effect the MAV is 0.035mg/L, for long-term effect the MAV is 0.0035mg/L.

Chemical and Physical									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
UV absorbance at 254nm	Abs units	50	0.04	0.01	0.02	0.002			
Alkalinity (Total) as CaCO ₃	mg/L	52	70.00	41.00	50.46	1			
Aluminium	mg/L	106	0.15	0.01	0.03	0.005	1	0.1	√
Bromate	mg/L	50	0.01	ND	ND	0.005	0.01		√
Bromide	mg/L	50	0.03	0.01	0.02	0.005			
Calcium	mg/L	14	22.00	13.00	17.71	0.01			
Calcium Hardness	mg/L	12	55.00	33.00	44.67	0.025			
Chlorate	mg/L	50	0.07	0.02	0.04	0.01	0.8		√
Chloride	mg/L	36	25.10	19.00	22.20	0.02		250	

Chemical and Physical cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ202 2	AV DWQAR	Compliance DWSNZ2022
Chlorine Residual	mg/L	352	1.78	0.59	1.43	0.02	5	0.3-1.0	√
Chlorite	mg/L	50	ND	ND	ND	0.005	0.8		√
Colour	Hazen Units	12	ND	ND	ND	5		15	
Conductivity	mS/m	14	26.40	11.00	22.69	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	52	1.00	0.09	0.87	0.02	1.5		√
Iodide	mg/L	4	ND	ND	ND	0.001			
Iron	mg/L	102	0.22	ND	0.03	0.002		0.3	
Magnesium	mg/L	14	2.90	2.40	2.65	0.001			
Magnesium Hardness	mg/L	12	12.00	9.70	11.06	0.0041			
Manganese	mg/L	102	0.02	ND	ND	0.0005	0.4	0.04	√
pH	pH Units	352	8.70	6.70	7.67	0.1		7.0-8.5	
Potassium	mg/L	14	3.40	2.80	3.12	0.05			
Silicon	mg/L	6	36.00	25.00	29.83	0.1			
Sodium	mg/L	14	23.00	19.00	20.71	0.1		200	
Sulphate	mg/L	14	30.80	21.10	25.46	0.02		250	
Suspended Solids	mg/L	12	2.80	0.20	0.87	0.2			
Total Dissolved Solids	mg/L	12	220.00	150.00	170.00			1000	
Total Hardness	mg/L	14	66.00	43.00	55.07	0.029		200	
Total Organic Carbon TOC	mg/L	12	1.40	0.50	0.92	0.1			
Turbidity	NTU	352	7.60	0.00	0.53	0.05		5	

Microbiology cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ202 2	AV DWQAR	Compliance DWSNZ2022
<i>E. coli</i>	cfu/100mL	351	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	6	ND	ND	ND	0.005		1.5	
Nitrate (as NO ₃)	mg/L	14	0.80	0.13	0.46	0.009	50		√
Nitrite (as NO ₂)	mg/L	14	ND	ND	ND	0.007	3		√
TKN	mg/L	4	ND	ND	ND	0.1			
Total Phosphorus	mg/L	12	0.02	0.01	0.01	0.005			

Plasticizers									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
bis (2-ethylhexyl) adipate	µg/L	26	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	26	ND	ND	ND	2	9		√

Semi Volatile Organic Compounds									
Organochlorine Pesticides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Aldrin + Dieldrin	µg/L	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	54	ND	ND	ND	0.1	100		√
Metolachlor	µg/L	54	ND	ND	ND	0.1	10		√
Molinate	µg/L	54	ND	ND	ND	ND	ND		√
Pendimethalin	µg/L	28	ND	ND	ND	0.2	20		√
Propanil	µg/L	54	ND	ND	ND	0.1			
Simazine	µg/L	54	ND	ND	ND	0.1	2		√
Terbuthylazine	µg/L	56	ND	ND	ND	0.2	8		√
Trifluralin	µg/L	26	ND	ND	ND	0.2	30		√
Organophosphorus Pesticides									
Chlorpyrifos	µg/L	28	ND	ND	ND	0.2	40		√
Diazinon	µg/L	54	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	6	ND	ND	ND	0.001	0.02		√
Arsenic*	µg/L	91	0.011	ND	ND	0.0001	0.01		
Barium	µg/L	14	0.02	0.01	0.02	0.0002	1.5		√

Trace Elements cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Boron	mg/L	14	0.21	0.12	0.17	0.005	2.4		√
Cadmium	mg/L	6	ND	ND	ND	0.00005	0.004		√
Chromium	mg/L	6	ND	ND	ND	0.0001	0.05		√
Copper	mg/L	6	0.02	0.01	0.01	0.0002	2	1	√
Lead	mg/L	6	ND	ND	ND	0.0001	0.01		√
Lithium	mg/L	4	0.06	0.04	0.05	0.0001			
Mercury	mg/L	6	ND	ND	ND	0.00005	0.007		√
Molybdenum	mg/L	4	ND	ND	ND	0.0003			
Nickel	mg/L	6	ND	ND	ND	0.0001	0.08		√
Selenium	mg/L	4	ND	ND	ND	0.0005	0.04		√
Zinc	mg/L	6	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	50	0.01	0.00	0.00	0.0001	0.06		√
Bromoform	mg/L	50	ND	ND	ND	0.0001	0.1		√
Chloroform	mg/L	50	0.01	0.00	0.00	0.0001	0.4		√
Dibromochloromethane	mg/L	50	ND	ND	ND	0.0001	0.15		√
THM Sum Ratio		50	0.13	0.03	0.06		1		√

* Watercare reported a single treated water arsenic result that was slightly above the MAV identified as part of routine monitoring. In November and December 2024, elevated arsenic levels were identified in raw water samples from the Waikato River. The identified arsenic increase in raw water samples were associated with an increase in the concentration of dissolved arsenic. Waikato Regional Council concluded that the change in dissolved arsenic concentration was due to geothermal activity. Watercare reported modifying treatment processes to increase the oxidation and removal of arsenic which reduced the level to below the MAV in the final treated water. Watercare also reported that an increase in monitoring frequency for arsenic in raw and treated water from the Waikato WTP was implemented. No further treated water arsenic results exceeded the MAV up until the end of the reported period.

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	26	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	26	ND	ND	ND	0.0001		0.01	
1,2,4-trichlorobenzene	mg/L	26	ND	ND	ND	0.0001		0.005	
1,2-dichlorobenzene	mg/L	26	ND	ND	ND	0.0001	1.5	0.001	√
1,2-dichloroethane	mg/L	26	ND	ND	ND	0.0001	0.03		√
1,4-dichlorobenzene	mg/L	26	ND	ND	ND	0.0001	0.4	0.0003	√
Benzene	mg/L	26	ND	ND	ND	0.0001	0.01		√
Carbon tetrachloride	mg/L	26	ND	ND	ND	0.0001	0.005		√
Ethylbenzene	mg/L	26	ND	ND	ND	0.0001	0.3	0.002	√
Xylenes (total)	mg/L	26	ND	ND	ND	0.0001	0.6	0.02	√
Styrene	mg/L	26	ND	ND	ND	0.0001	0.03	0.004	√
Tetrachloroethene	mg/L	26	ND	ND	ND	0.0001	0.05		√
Toluene	mg/L	26	ND	ND	ND	0.0001	0.8	0.03	√
1,2-dichloroethene (cis + trans)	mg/L	26	ND	ND	ND	0.0001	0.06		√

Halo Acetic Acids (HAAs)									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Bromoacetic Acid	mg/L	12	ND	ND	ND	0.001			
Bromochloroacetic Acid	mg/L	12	ND	ND	ND	0.001			
Dibromoacetic Acid	mg/L	12	ND	ND	ND	0.001			
Dichloroacetic Acid	mg/L	12	ND	ND	ND	0.001	0.05		√
Trichloroacetic Acid	mg/L	12	ND	ND	ND	0.001	0.2		√
HAA Sum Ratio		12	0.08	0.00	0.03				

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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	16	ND	ND	ND	0.0001	0.01		√
2,4-Dichlorophenoxyacetic acid (2,4-BD)	mg/L	16	ND	ND	ND	0.0001	0.04		√
4-(2,4-dichlorophenoxy) butanoic acid (2,4-DB)	mg/L	16	ND	ND	ND	0.0001	0.1		√
Bentazone	mg/L	16	ND	ND	ND	0.0001			
Dichlorprop	mg/L	16	ND	ND	ND	0.0001	0.1		√
MCPA	mg/L	16	ND	ND	ND	0.0001	0.8		√
Mecoprop	mg/L	16	ND	ND	ND	0.0001	0.01		√
Picloram	mg/L	16	ND	ND	ND	0.0001	0.2		√
Triclopyr	mg/L	16	ND	ND	ND	0.0001	0.1		√

Chemical and Physical									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
UV absorbance at 254nm	Abs units	32	0.06	0.00	0.02	0.002			
Alkalinity (Total) as CaCO ₃	mg/L	32	77.00	30.00	55.25	1			
Aluminium	mg/L	84	0.05	0.00	0.01	0.005	1	0.1	√
Calcium	mg/L	8	18.00	5.60	8.54	0.01			
Chloride	mg/L	8	45.00	14.00	21.38	0.02		250	
Chlorine Residual	mg/L	224	1.87	0.07	1.32	0.02	5	0.3-1.0	√
Conductivity	mS/m	8	26,80	20.00	24.04	0.5			
Fluoride	mg/L	32	0.89	0.05	0.14	0.02	1.5		√
Iron	mg/L	68	0.23	0.00	0.03	0.002		0.3	
Manganese	mg/L	86	0.12	0.00	0.01	0.0005	0.4	0.04	√
pH	pH Units	224	7.90	6.50	7.46	0.1		7.0-8.5	

Chemical and Physical cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ202 2	AV DWQAR	Compliance DWSNZ2022
Sulphate	mg/L	8	28.40	9.65	15.37	0.02		250	
Suspended Solids	mg/L	8	0.63	0.00	0.08	0.2			
Total Dissolved Solids	mg/L	8	180.00	120.00	160.00			1000	
Total Organic Carbon TOC	mg/L	32	2.40	0,50	1.16	0.1			
Turbidity	NTU	221	0.70	0.00	0.09	0.05		5	

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ202 2	AV DWQAR	Compliance DWSNZ2022
<i>E. coli</i>	cfu/100mL	219	ND	ND	ND	1	<1		√

Nutrients									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ202 2	AV DWQAR	Compliance DWSNZ2022
Nitrate (as NO ₃)	mg/L	8	1.10	0.16	0.51	0.009	50		√
Nitrite (as NO ₂)	mg/L	8	ND	ND	ND	0.007	3		√
Total Phosphorus	mg/L	8	0.01	0.00	0.00	0.005			

Plasticizers									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ202 2	AV DWQAR	Compliance DWSNZ2022
bis (2-ethylhexyl) adipate	µg/L	16	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	16	ND	ND	ND	2	9		√

Semi Volatile Organic Compounds									
Organochlorine Pesticides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Aldrin + Dieldrin	µg/L	16	ND	ND	ND	0.01	0.04		✓
Chlordane	µg/L	16	ND	ND	ND	0.01	0.2		✓
Lindane	µg/L	16	ND	ND	ND	0.01	2		✓
Heptachlor	µg/L	16	ND	ND	ND	0.01			
Heptachlor epoxide	µg/L	16	ND	ND	ND	0.01			
Hexachlorobenzene	µg/L	16	ND	ND	ND	0.1			
Methoxychlor	µg/L	16	ND	ND	ND	0.2	20		✓
Permethrin (cis + trans)	µg/L	16	ND	ND	ND	0.2			
DDT + isomers	µg/L	16	ND	ND	ND	0.2	1		✓
Procymidone	µg/L	16	ND	ND	ND	0.2	700		✓
Organonitrogen Herbicides									
Alachlor	µg/L	16	ND	ND	ND	0.2	20		✓
Atrazine	µg/L	32	ND	ND	ND	0.1	100		✓
Metolachlor	µg/L	32	ND	ND	ND	0.1	10		✓
Molinate	µg/L	32	ND	ND	ND	0.1	7		✓
Pendimethalin	µg/L	16	ND	ND	ND	0.2	20		✓
Propanil	µg/L	32	ND	ND	ND	0.1			
Simazine	µg/L	32	ND	ND	ND	0.1	2		✓
Terbuthylazine	µg/L	32	ND	ND	ND	0.2	8		✓
Trifluralin	µg/L	16	ND	ND	ND	0.2	30		✓
Organophosphorus Pesticides									
Chlorpyrifos	µg/L	16	ND	ND	ND	0.2	40		✓
Diazinon	µg/L	32	ND	ND	ND	0.1			
Pirimiphos methyl	µg/L	16	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	6	ND	ND	ND	0.001	0.02		√
Lead	mg/L	6	ND	ND	ND	0.0001	0.01		√
Nickel	mg/L	6	ND	ND	ND	0.0001	0.08		√

Trihalomethanes									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Bromodichloromethane	mg/L	32	0.01	ND	ND	0.0001	0.06		√
Bromoform	mg/L	32	ND	ND	ND	0.0001	0.1		√
Chloroform	mg/L	32	0.01	ND	ND	0.0001	0.4		√
Dibromochloromethane	mg/L	32	0.01	ND	ND	0.0001	0.15		√
THM Sum Ratio		32	0.19	0.05	0.08		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 DWSNZ202 2	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		√

Halo Acetic Acids (HAAs)									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ202 2	AV DWQAR	Compliance DWSNZ2022
Bromoacetic Acid	mg/L	8	ND	ND	ND	0.001			
Bromochloroacetic Acid	mg/L	8	ND	ND	ND	0.001			
Dibromoacetic Acid	mg/L	8	ND	ND	ND	0.001			
Dichloroacetic Acid	mg/L	8	ND	ND	ND	0.001	0.05		√
Trichloroacetic Acid	mg/L	8	ND	ND	ND	0.001	0.2		√
HAA Sum Ratio		8	0.10	0.00	0.03				

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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-dichlorophenoxy) 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	0.02	0.01	0.02	0.002			
Alkalinity (Total) as CaCO ₃	mg/L	52	22.00	15.00	18.60	1			
Aluminium	mg/L	104	0.03	0.01	0.02	0.005	1	0.1	√
Bromate	mg/L	4	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	4	0.04	0.03	0.03	0.005			
Calcium	mg/L	12	10.00	8.80	9.32	0.01			
Calcium Hardness	mg/L	12	26.00	22.00	23.25	0.025			
Chlorate	mg/L	4	ND	ND	ND	0.01	0.8		√
Chloride	mg/L	4	25.10	22.30	23.70	0.02		250	
Chlorine Residual	mg/L	365	1.52	0.66	0.99	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 DWSNZ202 2	AV DWQAR	Compliance DWSNZ2022
Colour	Hazen Units	12	5.00	ND	0.83	5		15	
Conductivity	mS/m	12	16.20	14.00	15.25	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	52	0.89	0.66	0.78	0.02	1.5		√
Iodide	mg/L	4	0,01	ND	ND	0.001			
Iron	mg/L	104	0.02	ND	0.01	0.002		0.3	
Magnesium	mg/L	12	3.20	2.10	2.56	0.001			
Magnesium Hardness	mg/L	12	13.00	8.70	10.39	0.0041			
Manganese	mg/L	104	0.03	ND	ND	0.0005	0.4	0.04	√
pH	pH Units	365	8,10	6.80	7.66	0.1		7.0-8.5	
Potassium	mg/L	4	1.00	0.79	0.89	0.05			
Silicon	mg/L	4	13.00	11.00	11.75	0.1			
Sodium	mg/L	4	14.00	12.00	13.25	0.1		200	
Sulphate	mg/L	4	17.80	13.90	15.62	0.02		250	
Suspended Solids	mg/L	12	0.36	ND	0.15	0.2			
Total Hardness	mg/L	12	35.00	32.00	33.83	0.029		200	
Total Organic Carbon TOC	mg/L	12	2.10	0.60	1.03	0.1			
Turbidity	NTU	365	0.90	0.00	0.21	0.05		5	

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ202 2	AV DWQAR	Compliance DWSNZ2022
<i>E. coli</i>	cfu/100mL	365	ND	ND	ND	1	<1		√

Nutrients									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Ammonia	mg/L	4	ND	ND	ND	0.005		1.5	
Nitrate (as NO ₃)	mg/L	4	0.06	0.01	0.02	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		√

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									
Chlorpyrifos	µg/L	4	ND	ND	ND	0.2	40		√
Diazinon	µg/L	4	ND	ND	ND	0.1			
Pirimiphos methyl	µg/L	4	ND	ND	ND	0.2	100		√

Trace Elements									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Antimony	mg/L	4	ND	ND	ND	0.001	0.02		√
Arsenic	mg/L	4	ND	ND	ND	0.0001	0.01		√
Barium	mg/L	4	0.01	0.00	0.01	0.0002	1.5		√
Boron	mg/L	4	0.02	0.01	0.01	0.005	2.4		√
Cadmium	mg/L	4	ND	ND	ND	0.00005	0.004		√
Chromium	mg/L	4	ND	ND	ND	0.0001	0.05		√
Copper	mg/L	4	ND	ND	ND	0.0002	2	1	√
Lead	mg/L	4	ND	ND	ND	0.0001	0.01		√
Lithium	mg/L	4	ND	ND	ND	0.0001			
Mercury	mg/L	4	ND	ND	ND	0.00005	0.007		√
Molybdenum	mg/L	4	ND	ND	ND	0.0003			
Nickel	mg/L	4	ND	ND	ND	0.0001	0.08		√
Selenium	mg/L	4	ND	ND	ND	0.0005	0.04		√

Trace Elements cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ202 2	AV DWQAR	Compliance DWSNZ2022
Zinc	mg/L	4	ND	ND	ND	0.001		1.5	

Trihalomethanes									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ202 2	AV DWQAR	Compliance DWSNZ2022
Bromodichloromethane	mg/L	52	0.01	ND	0.01	0.0001	0.06		√
Bromoform	mg/L	52	0.01	ND	ND	0.0001	0.1		√
Chloroform	mg/L	52	0.01	ND	ND	0.0001	0.4		√
Dibromochloromethane	mg/L	52	0.02	ND	0.01	0.0001	0.15		√
THM Sum Ratio		52	0.38	ND	0.22		1		√

Volatile Organic Compounds									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ202 2	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		√
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Halo Acetic Acids (HAAs)									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Bromoacetic Acid	mg/L	4	ND	ND	ND	0.001			
Bromochloroacetic Acid	mg/L	4	ND	ND	ND	0.001			
Monochloroacetic Acid	mg/L	4	0.10	0.04	0.06	0.001	0.02		√
Dibromoacetic Acid	mg/L	4	ND	ND	ND	0.001			
Dichloroacetic Acid	mg/L	4	ND	ND	ND	0.001	0.05		√
Trichloroacetic Acid	mg/L	4	ND	ND	ND	0.001	0.2		√
HAA Sum Ratio		4	0.03	ND	0.01				

Waiuku Road WTP Treated Water

Chemical and Physical									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Alkalinity (Total) as CaCO ₃	mg/L	4	120	120	120	1			
Aluminium	mg/L	2	ND	ND	ND	0.005	1	0.1	√
Bromate	mg/L	12	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	12	0.087	0.067	0.077	0.005			
Calcium	mg/L	12	31	27	29	0.01			
Calcium Hardness	mg/L	12	77	69	72	0.025			
Chlorate	mg/L	12	0.015	0	0.012	0.01	0.8		√
Chloride	mg/L	1	33.1	33.1	33.1	0.02		250	
Chlorine Residual	mg/L	104	1.46	0.59	0.92	0.02	5	0.3-1.0	√
Chlorite	mg/L	12	ND	ND	ND	0.005	0.8		√
Colour	Hazen Units	1	ND	ND	ND	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	0.04	0.04	0.04	0.02	1.5		√
Iodide	mg/L	1	0.002	0.002	0.002	0.001			
Iron	mg/L	24	0.008	0	0.001	0.002		0.3	
Magnesium	mg/L	12	8	7	7.5	0.001			
Magnesium Hardness	mg/L	12	33	29	31	0.0041			
Manganese	mg/L	24	0.0015	0	0.0004	0.0005	0.4	0.04	√
pH	pH Units	104	8	7.6	7.9	0.1		7.0-8.5	
Potassium	mg/L	1	4.8	4.8	4.8	0.05			
Silicon	mg/L	1	34	34	34	0.1			
Sodium	mg/L	1	25	25	25	0.1		200	
Sulphate	mg/L	1	5	5	5	0.02		250	

Chemical and Physical cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ202 2	AV DWQAR	Compliance DWSNZ2022
Suspended Solids	mg/L	1	ND	ND	ND	0.2			
Total Dissolved Solids	mg/L	1	220	220	220	15		1000	
Total Hardness	mg/L	12	110	96	103	0.029		200	
Total Organic Carbon TOC	Mg/L	12	12.9	0	1.2	0.1			
Turbidity	NTU	104	0.45	0.00	0.04	0.05		5	

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ202 2	AV DWQAR	Compliance DWSNZ2022
<i>E. coli</i>	cfu/100mL	103	ND	ND	ND	1	<1		√

Nutrients									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ202 2	AV DWQAR	Compliance DWSNZ2022
Ammonia	mg/L	1	ND	ND	ND	0.005		1.5	
Nitrate (as NO ₃)	mg/L	1	0.02	0.02	0.02	0.009	50		√
Nitrite (as NO ₂)	mg/L	1	ND	ND	ND	0.007	3		√
TKN (Total Kjeldahl Nitrogen)	mg/L	1	ND	ND	ND	0.1			
Total Phosphorus	mg/L	1	0.06	0.06	0.06	0.005			

Plasticizers									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ202 2	AV DWQAR	Compliance DWSNZ2022
bis (2-ethylhexyl) adipate	µg/L	1	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	1	ND	ND	ND	2	9		√

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

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

Trihalomethanes									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Bromodichloromethane	mg/L	12	ND	ND	ND	0.0001	0.06		✓
Bromoform	mg/L	12	ND	ND	ND	0.0001	0.1		✓
Chloroform	mg/L	12	ND	ND	ND	0.0001	0.4		✓
Dibromochloromethane	mg/L	12	ND	ND	ND	0.0001	0.15		✓
THM Sum Ratio		12	0.10	0.04	0.06		1		✓

Volatile Organic Compounds									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ202 2	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 DWSNZ202 2	AV DWQAR	Compliance DWSNZ2022
Alkalinity (Total) as CaCO ₃	Abs units	4	190.00	170.00	182.50	0.002			
Bromate	mg/L	2	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	4	ND	ND	ND	0.005			
Calcium	mg/L	4	31.00	26.00	28.50	0.01			
Calcium Hardness	mg/L	4	78.00	66.00	71.75	0.01			
Chlorate	mg/L	4	ND	ND	ND	0.025	0.8		√
Chloride	mg/L	1	28.60	28.60	28.60	0.01		250	
Chlorine Residual	mg/L	104	1.73	0.40	1.02	0.02	5	0.3-1.0	√
Chlorite	mg/L	4	ND	ND	ND	0.02	0.8		√
Colour	Hazen Units	1	ND	ND	ND	5		15	
Conductivity	mS/m	1	45.30	45.30	45.30	0.5			
Cyanide	mg/L	1	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	1	0.13	0.13	0.13	0.02	1.5		√
Iodide	mg/L	1	0.03	0.03	0.03	0.001			
Iron	mg/L	104	0.64	ND	0.01	0.002		0.3	
Magnesium	mg/L	4	9.90	8.30	9.00	0.001			
Magnesium Hardness	mg/L	4	37.00	34.00	35.75	0.0041			
Manganese	mg/L	104	0.13	ND	ND	0.0005	0.4	0.04	√
pH	pH unit	104	7.80	7.30	7.59	0.1		7.0-8.5	
Sulphate	mg/L	1	9.86	9.86	9.86	0.02		250	
Suspended Solids	mg/L	1	0.25	0.25	0.25	0.2			
Total Dissolved Solids	mg/L	1	290.00	290.00	290.00	15		1000	
Total Hardness	mg/L	4	110.00	100.00	107.50	0.029		200	
Total Organic Carbon TOC	mg/L	1	0.80	0.80	0.80	0.1			
Turbidity	NTU	104	0.15	0.00	0.03	0.05		5	

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

Nutrients									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Ammonia	mg/L	1	ND	ND	ND	0.005		1.5	
Nitrate (as NO ₃)	mg/L	1	0.01	0.01	0.01	0.009	50		√
Nitrite (as NO ₂)	mg/L	1	ND	ND	ND	0.007	3		√
TKN (Total Kjeldahl Nitrogen)	mg/L	1	ND	ND	ND	0.1			
Total Phosphorus	mg/L	1	0.06	0.06	0.06	0.005			

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

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

Trihalomethanes									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Bromodichloromethane	mg/L	52	0.02	0.01	0.01	0.0001	0.06		✓
Bromoform	mg/L	52	ND	ND	ND	0.0001	0.1		✓
Chloroform	mg/L	52	0.02	0.01	0.01	0.0001	0.4		✓
Dibromochloromethane	mg/L	52	0.01	0.01	0.01	0.0001	0.15		✓
THM Sum Ratio		52	0.42	0.17	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	12	ND	ND	ND	0.0001	0.01		✓
2-4-Dichlorophenoxyacetic acid (2,4-D)	mg/L	12	ND	ND	ND	0.0001	0.04		✓
4-(2-4-Dichlorophenoxy) butanoic acid (2,4-DB)	mg/L	12	ND	ND	ND	0.0001	0.1		✓
Bentazone	mg/L	12	ND	ND	ND	0.0001			
Dichlorprop	mg/L	12	ND	ND	ND	0.0001	0.1		✓
MCPA	mg/L	12	ND	ND	ND	0.0001	0.8		✓
Mecoprop (MCPP)	mg/L	12	ND	ND	ND	0.0001	0.01		✓
Picloram	mg/L	12	ND	ND	ND	0.0001	0.2		✓
Triclopyr	mg/L	12	ND	ND	ND	0.0001	0.1		✓

Chemical and Physical									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
UV absorbance at 254nm	Abs units	52	0.04	0.01	0.02	0.002			
Alkalinity (Total) as CaCO ₃	mg/L	52	73.00	28.00	46.65	1			
Aluminium	mg/L	104	0.04	0.01	0.01	0.005	1	0.1	✓
Bromate	mg/L	4	ND	ND	ND	0.005	0.01		✓
Bromide	mg/L	4	0.06	0.02	0.04	0.005			
Calcium	mg/L	12	17.00	9.10	12.26	0.01			
Calcium Hardness	mg/L	12	42.00	23.00	30.83	0.025			
Chlorate	mg/L	4	ND	ND	ND	0.01	0.8		✓
Chloride	mg/L	4	26.80	17.40	24.45	0.02		250	
Chlorine Residual	mg/L	104	1.69	0.62	1.22	0.02	5	0.3-1.0	✓
Chlorite	mg/L	4	ND	ND	ND	0.005	0.8		✓
Colour	Hazen Units	4	5.00	ND	1.25	5		15	

Chemical and Physical cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Conductivity	mS/m	12	29.30	21.60	25.30	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	12	0.04	0.00	0.01	0.02	1.5		√
Iodide	mg/L	4	ND	ND	ND	0.001			
Iron	mg/L	24	0.01	ND	ND	0.002		0.3	
Magnesium	mg/L	12	5.80	2.30	4.33	0.001			
Magnesium Hardness	mg/L	12	24.00	9.70	17.97	0.0041			
Manganese	mg/L	24	0.12	ND	0.02	0.0005	0.4	0.04	√
pH	pH Units	104	7.70	6.70	7.34	0.1		7.0-8.5	
Potassium	mg/L	4	2.90	1.40	1.90	0.05			
Silicon	mg/L	4	16.00	8.30	13.58	0.1			
Sodium	mg/L	4	38.00	23.00	29.50	0.1		200	
Sulphate	mg/L	4	43.30	28.20	33.32	0.02		250	
Suspended Solids	mg/L	12	1.50	ND	0.18	0.2			
Total Dissolved Solids	mg/L	12	200.00	110.00	150.83	15		1000	
Total Hardness	mg/L	12	66.00	32.00	48.83	0.029		200	
Total Organic Carbon TOC	mg/L	52	4.80	0.70	1.51				
Turbidity	NTU	104	0.40	0.00	0.08	0.05		5	

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
<i>E. coli</i>	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	0.01	0.00	0.00	0.005		1.5	
Nitrate (as NO ₃)	mg/L	12	0.43	0.00	0.20	0.009	50		√
Nitrite (as NO ₂)	mg/L	12	ND	ND	ND	0.007	3		√
TKN (Total Kjeldahl Nitrogen)	mg/L	4	0.17	0.00	0.11	0.1			
Total Phosphorus	mg/L	12	ND	ND	ND	0.005			

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

Semi Volatile Organic Compounds									
Organochlorine Pesticides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ2022	AV DWQAR	Compliance DWSNZ2022
Aldrin + Dieldrin	µg/L	12	ND	ND	ND	0.01	0.04		√
Chlordane	µg/L	12	ND	ND	ND	0.01	0.2		√
Lindane	µg/L	12	ND	ND	ND	0.01	2		√
Heptachlor	µg/L	12	ND	ND	ND	0.01			
Heptachlor epoxide	µg/L	12	ND	ND	ND	0.01			
Hexachlorobenzene	µg/L	12	ND	ND	ND	0.1			
Methoxychlor	µg/L	12	ND	ND	ND	0.2	20		√

Organochlorine Pesticides cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ202 2	AV DWQAR	Compliance DWSNZ2022
Permethrin (cis + trans)	µg/L	12	ND	ND	ND	0.2			
DDT + isomers	µg/L	12	ND	ND	ND	0.2	1		✓
Procymidone	µg/L	12	ND	ND	ND	0.2	700		✓
Organonitrogen Herbicides									
Alachlor	µg/L	12	ND	ND	ND	0.2	20		✓
Atrazine	µg/L	24	ND	ND	ND	0.1	100		✓
Metolachlor	µg/L	24	ND	ND	ND	0.1	10		✓
Molinate	µg/L	24	ND	ND	ND	0.1	7		✓
Pendimethalin	µg/L	12	ND	ND	ND	0.2	20		✓
Propanil	µg/L	24	ND	ND	ND	0.1			
Simazine	µg/L	24	ND	ND	ND	0.1	2		✓
Terbuthylazine	µg/L	24	ND	ND	ND	0.2	8		✓
Trifluralin	µg/L	12	ND	ND	ND	0.2	30		✓
Organophosphorus Pesticides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ202 2	AV DWQAR	Compliance DWSNZ2022
Chlorpyrifos	µg/L	12	ND	ND	ND	0.2	40		✓
Diazinon	µg/L	24	ND	ND	ND	0.1			
Pirimiphos methyl	µg/L	12	ND	ND	ND	0.2	100		✓
Trace Elements									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ202 2	AV DWQAR	Compliance DWSNZ2022
Antimony	mg/L	12	ND	ND	ND	0.001	0.02		✓
Arsenic	mg/L	4	ND	ND	ND	0.0001	0.01		✓
Barium	mg/L	4	0.03	0.01	0.02	0.0002	1.5		✓
Boron	mg/L	4	0.02	0.01	0.01	0.005	2.4		✓
Cadmium	mg/L	12	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	12	ND	ND	ND	0.0001	0.05		√
Copper	mg/L	12	ND	ND	ND	0.0002	2	1	√
Lead	mg/L	12	ND	ND	ND	0.0001	0.01		√
Lithium	mg/L	4	ND	ND	ND	0.0001			
Mercury	mg/L	12	ND	ND	ND	0.00005	0.007		√
Molybdenum	mg/L	4	ND	ND	ND	0.0003			
Nickel	mg/L	12	ND	ND	ND	0.0001	0.08		√
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	53	0,01	ND	0.01	0.0001	0.06		√
Bromoform	mg/L	53	ND	ND	ND	0.0001	0.1		√
Chloroform	mg/L	53	0.01	ND	ND	0.0001	0.4		√
Dibromochloromethane	mg/L	53	0.01	ND	0.01	0.0001	0.15		√
THM Sum Ratio		53	0.29	0.02	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	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	√

Volatile Organic Compounds cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ202 2	AV DWQAR	Compliance DWSNZ2022
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		√
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 DWSNZ202 2	AV DWQAR	Compliance DWSNZ2022
Bromoacetic Acid	mg/L	1	ND	ND	ND	0.001			
Bromochloroacetic Acid	mg/L	1	ND	ND	ND	0.001			
Dibromoacetic Acid	mg/L	1	ND	ND	ND	0.001			
Dichloroacetic Acid	mg/L	1	ND	ND	ND	0.001	0.05		√
Trichloroacetic Acid	mg/L	1	ND	ND	ND	0.001	0.2		√
HAA Sum Ratio		1	0.04	0.04	0.04				

Water Quality Compliance Data for the Distribution Network Zones

Anzac Distribution Network Zone

Supplied by: Ardmore Pukekohe, and Waikato WTPs

	Turbidity	<i>E. coli</i>	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	1.00	7.70	0.00
Average	0.42	0.00	0.98	7.71	0.00
Maximum	12.00	0.00	1.43	8.10	0.00
Count of Results	137	134	173	134	134

Compliance with D3 disinfection criteria			Met		
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Auckland Distribution Network Zone

Supplied by: Ardmore, Huia, and Waikato WTPs

	Turbidity	<i>E. coli</i>	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.10	0.00	0.00	7.00	0.00
Median	0.25	0.00	0.91	7.60	0.00
Average	0.31	0.00	0.89	7.64	0.10
Maximum	19.00	0.00	1.40	8.30	48.00
Count of Results	693	693	693	698	693

Compliance with D3 disinfection criteria			Not met*		
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Comments:

*Not met due to one result in February and one result in March where FAC was less than the 0.1 mg/L requirement. A total of 167 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.

Auckland Airport Distribution Network Zone

Supplied by: Ardmore, Huia, and Waikato WTPs

	Turbidity	<i>E. coli</i>	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.10	0.00	0.55	7.40	0.00
Median	0.25	0.00	0.88	7.70	0.00
Average	0.29	0.00	0.88	7.67	0.00
Maximum	3.30	0.00	1.26	7.90	0.00
Count of Results	132	132	184	132	132
Compliance with D3 disinfection criteria			Met		

Bombay Distribution Network Zone

Supplied by: Bombay WTP

	Turbidity	<i>E. coli</i>	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.00	0.00	0.57	7.20	0.00
Median	0.00	0.00	0.90	7.70	0.00
Average	0.07	0.00	0.90	7.68	0.00
Maximum	0.80	0.00	1.62	8.20	0.00
Count of Results	105	105	157	105	105
Compliance with D3 disinfection criteria			Met		

Buckland Distribution Network Zone

Supplied by: Ardmore, Pukekohe, and Waikato WTPs

	Turbidity	<i>E. coli</i>	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.00	0.00	0.57	7.30	0.00
Median	0.20	0.00	1.01	7.80	0.00
Average	0.44	0.00	0.99	7.82	0.00
Maximum	27.00	0.00	1.63	8.10	0.00
Count of Results	118	118	157	118	118
Compliance with D3 disinfection criteria			Met		

Central Business District Distribution Network Zone

Supplied by: Ardmore, Huia, and Waikato WTPs

	Turbidity	<i>E. coli</i>	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.10	0.00	0.29	7.30	0.00
Median	0.25	0.00	0.75	7.70	0.00
Average	0.28	0.00	0.74	7.77	0.01
Maximum	3.40	0.00	1.17	8.90	2.00
Count of Results	225	225	238	225	225
Compliance with D3 disinfection criteria			Met		

Clarks / Waiau Beach Distribution Network Zone

Supplied by: Ardmore, Pukekohe, and Waikato WTPs

	Turbidity	<i>E. coli</i>	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.10	0.00	0.34	7.40	0.00
Median	0.30	0.00	0.86	7.80	0.00
Average	0.31	0.00	0.89	7.76	0.00
Maximum	0.90	0.00	1.46	8.10	0.00
Count of Results	118	118	157	118	118
Compliance with D3 disinfection criteria			Met		

East Tāmaki / Botany Distribution Network Zone

Supplied by: Ardmore and Waikato WTPs

	Turbidity	<i>E. coli</i>	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.10	0.00	0.53	7.20	0.00
Median	0.25	0.00	1.01	7.60	0.00
Average	0.27	0.00	0.98	7.64	0.26
Maximum	3.40	0.00	1.41	7.90	69.00
Count of Results	269	269	322	269	269
Compliance with D3 disinfection criteria			Met		

Glenbrook Beach Distribution Network Zone

Supplied by: Ardmore, Pukekohe, and Waikato WTPs

	Turbidity	<i>E. coli</i>	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.10	0.00	0.26	7.50	0.00
Median	0.30	0.00	0.82	7.80	0.00
Average	0.31	0.00	0.87	7.77	0.00
Maximum	0.85	0.00	1.60	8.00	0.00
Count of Results	122	122	161	122	122
Compliance with D3 disinfection criteria			Met		

Glen Eden / New Lynn Distribution Network Zone

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

	Turbidity	<i>E. coli</i>	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.10	0.00	0.29	7.20	0.00
Median	0.20	0.00	0.88	7.60	0.00
Average	0.42	0.00	0.88	7.60	0.00
Maximum	31.00	0.00	1.64	8.10	0.00
Count of Results	282	282	360	282	282
Compliance with D3 disinfection criteria			Met		

HBC / Waiwera Distribution Network Zone

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

	Turbidity	<i>E. coli</i>	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.10	0.00	0.24	7.30	0.00
Median	0.25	0.00	0.96	7.80	0.00
Average	0.28	0.00	0.89	7.90	0.00
Maximum	2.00	0.00	1.48	8.80	0.00
Count of Results	185	185	211	185	185
Compliance with D3 disinfection criteria			Met		

Helensville / Parakai Distribution Network Zone

Supplied by: Helensville WTP

	Turbidity	<i>E. coli</i>	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.00	0.00	0.28	7.20	0.00
Median	0.10	0.00	0.72	7.50	0.00
Average	0.13	0.00	0.75	7.50	0.01
Maximum	2.20	0.00	1.43	7.80	1.00
Count of Results	119	119	158	119	119
Compliance with D3 disinfection criteria			Met		

Henderson Distribution Network Zone

Supplied by: Ardmore, Huia, and Waikato WTPs

	Turbidity	<i>E. coli</i>	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.00	0.00	0.35	6.90	0.00
Median	0.20	0.00	0.94	7.60	0.00
Average	0.27	0.00	0.92	7.59	0.00
Maximum	20.00	0.00	1.37	8.30	0.00
Count of Results	423	423	423	423	423

Compliance with D3 disinfection criteria			Met		
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High Head Distribution Network Zone

Supplied by: Ardmore and Waikato WTPs

	Turbidity	<i>E. coli</i>	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.00	0.00	0.00*	7.10	0.00
Median	0.25	0.00	0.93	7.60	0.00
Average	0.22	0.00	0.90	7.58	0.00
Maximum	0.60	0.00	1.49	7.90	1.00
Count of Results	306	306	307	306	306

Compliance with D3 disinfection criteria			Not met*		
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Comments:

*Not met due to one result in January where FAC were less than the 0.1 mg/L requirement. A total of 72 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.

Hillsborough Distribution Network Zone

Supplied by: Ardmore, Huia, and Waikato WTPs

	Turbidity	<i>E. coli</i>	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	0.25	0.00	0.95	7.70	0.00
Average	0.28	0.00	0.91	7.70	0.01
Maximum	3.90	0.00	1.47	8.10	2.00
Count of Results	294	294	294	297	294
Compliance with D3 disinfection criteria			Met		

Hilltop Distribution Network Zone

Supplied by: Ardmore, Pukekohe, and Waikato WTPs

	Turbidity	<i>E. coli</i>	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.10	0.00	0.27	7.50	0.00
Median	0.30	0.00	0.81	7.80	0.00
Average	0.29	0.00	0.75	7.79	0.00
Maximum	0.55	0.00	1.14	8.20	0.00
Count of Results	118	118	157	118	118
Compliance with D3 disinfection criteria			Met		

Howick / Pakuranga Distribution Network Zone

Supplied by: Ardmore, and Waikato WTPs

	Turbidity	<i>E. coli</i>	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.10	0.00	0.41	7.30	0.00
Median	0.20	0.00	0.92	7.70	0.00
Average	0.28	0.00	0.90	7.72	0.02
Maximum	9.10	0.00	1.36	8.50	1.00
Count of Results	454	454	454	454	454
Compliance with D3 disinfection criteria			Met		

Huia Village Distribution Network Zone

Supplied by: Huia Village WTP

	Turbidity	<i>E. coli</i>	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100mL	mg/L	pH unit	MPN/100 mL
Minimum	0.00	0.00	0.24	7.30	0.00
Median	0.00	0.00	1.09	7.70	0.00
Average	0.11	0.00	1.02	7.70	0.00
Maximum	3.50	0.00	1.50	8.20	0.00
Count of Results	117	117	143	117	117
Compliance with D3 disinfection criteria			Met		

Kitchener Distribution Network Zone

Supplied by: Ardmore, Pukekohe, and Waikato WTPs

	Turbidity	<i>E. coli</i>	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100mL	mg/L	pH unit	MPN/100mL
Minimum	0.00	0.00	0.35	7.20	0.00
Median	0.28	0.00	1.10	7.80	0.00
Average	0.25	0.00	1.07	7.78	0.00
Maximum	1.10	0.00	1.68	8.10	0.00
Count of Results	144	144	223	144	144

Compliance with D3 disinfection criteria

Met

Laingholm Distribution Network Zone

Supplied by: Huia WTP

	Turbidity	<i>E. coli</i>	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100mL	mg/L	pH unit	MPN/100 mL
Minimum	0.15	0.00	0.38	7.30	0.00
Median	0.20	0.00	0.72	7.60	0.00
Average	0.30	0.00	0.72	7.65	0.02
Maximum	3.70	0.00	1.35	8.30	2.00
Count of Results	136	136	164	136	136

Compliance with D3 disinfection criteria

Met

Māngere Distribution Network Zone

Supplied by: Ardmore, and Waikato WTPs

	Turbidity	<i>E. coli</i>	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.10	0.00	0.16	7.30	0.00
Median	0.25	0.00	0.95	7.70	0.00
Average	0.28	0.00	0.92	7.68	0.25
Maximum	4.30	0.00	1.43	8.90	80.30
Count of Results	325	325	351	326	325
Compliance with D3 disinfection criteria			Met		

Manurewa Distribution Network Zone

Supplied by: Ardmore, and Waikato WTPs

	Turbidity	<i>E. coli</i>	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.10	0.00	0.51	7.30	0.00
Median	0.25	0.00	0.92	7.70	0.00
Average	0.27	0.00	0.91	7.72	0.01
Maximum	1.90	0.00	1.75	8.10	3.00
Count of Results	318	318	344	318	318
Compliance with D3 disinfection criteria			Met		

Maungawhau Distribution Network Zone

Supplied by: Ardmore, Huia, and Waikato WTPs

	Turbidity	<i>E. coli</i>	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.10	0.00	0.22	7.30	0.00
Median	0.25	0.00	0.78	7.70	0.00
Average	0.37	0.02	0.78	7.64	0.11
Maximum	6.30	5.00*	1.38	8.20	32.00
Count of Results	312	312	312	312	312

Compliance with D3 disinfection criteria

Not met*

Met

Comments:

*Not met due to one result in November when *E. coli* of 5.0 cfu/100mL was detected at the Balmoral Road sampling point on 23rd November 2024 and not met with the DWSNZ 2022 requirement. An immediate 3-day resampling was carried out for 7 sampling points within the distribution zone as per the Drinking Water Safety Plan. All results were found compliant with the DWSNZ 2022 and no *E. coli* was detected.

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

Montana Distribution Network Zone

Supplied by: Huia WTP

	Turbidity	<i>E. coli</i>	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.15	0.00	0.24	7.10	0.00
Median	0.20	0.00	0.78	7.50	0.00
Average	0.22	0.00	0.74	7.56	0.00
Maximum	1.40	0.00	1.08	8.30	0.00
Count of Results	138	138	177	138	138

Compliance with D3 disinfection criteria

Met

Mt Hobson Distribution Network Zone

Supplied by: Ardmore, and Waikato WTPs

	Turbidity	<i>E. coli</i>	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.10	0.00	0.26	7.30	0.00
Median	0.20	0.00	0.67	7.70	0.00
Average	0.28	0.00	0.68	7.70	0.00
Maximum	6.10	0.00	1.11	8.00	0.00
Count of Results	236	236	236	236	236
Compliance with D3 disinfection criteria			Met		

Muriwai Distribution Network Zone

Supplied by: Muriwai WTP

	Turbidity	<i>E. coli</i>	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.00	0.00	0.38	6.80	0.00
Median	0.00	0.00	0.91	7.40	0.00
Average	0.15	0.00	0.90	7.39	0.00
Maximum	11.00	0.00	1.44	7.70	0.00
Count of Results	107	107	159	107	107
Compliance with D3 disinfection criteria			Met		

North Shore South Distribution Network Zone

Supplied by: Ardmore, and Waikato WTPs

	Turbidity	<i>E. coli</i>	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.00	0.00	0.00	7.00	0.00
Median	0.20	0.00	0.80	7.70	0.00
Average	0.28	0.00	0.77	7.73	0.01
Maximum	16.00	0.00	1.19	9.40	3.00
Count of Results	474	474	474	474	474

Compliance with D3 disinfection criteria

Not met*

Comments:

*Not met due to two results in December where the FAC result was less than 0.1 mg/L. Watercare reported that improvements have been made to the sampling line that was identified as a factor of the low FAC results. One result in January where the FAC was less than 0.1 mg/L. A total of 131 results 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.

North Shore West Distribution Network Zone

Supplied by: Ardmore, Huia, and Waikato WTPs

	Turbidity	<i>E. coli</i>	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.10	0.00	0.26	7.10	0.00
Median	0.20	0.00	0.85	7.60	0.00
Average	0.26	0.00	0.85	7.59	0.00
Maximum	3.90	0.00	1.52	8.50	0.00
Count of Results	454	454	484	454	454

Compliance with D3 disinfection criteria

Met

Onehunga Distribution Network Zone

Supplied by: Ardmore, and Waikato WTPs

	Turbidity	<i>E. coli</i>	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.15	0.00	0.19	7.10	0.00
Median	0.25	0.00	0.81	7.60	0.00
Average	0.30	0.00	0.77	7.59	0.01
Maximum	4.70	0.00	1.30	7.90	1.00
Count of Results	212	212	264	212	212
Compliance with D3 disinfection criteria			Met		

Oratia Distribution Network Zone

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

	Turbidity	<i>E. coli</i>	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.15	0.00	0.24	7.30	0.00
Median	0.20	0.00	0.68	8.10	0.00
Average	0.27	0.00	0.67	8.22	0.00
Maximum	1.60	0.00	1.48	9.10	0.00
Count of Results	140	140	166	140	140
Compliance with D3 disinfection criteria			Met		

Otahuhu Distribution Network Zone

Supplied by: Ardmore, and Waikato WTPs

	Turbidity	<i>E. coli</i>	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.10	0.00	0.04	7.30	0.00
Median	0.25	0.00	1.01	7.70	0.00
Average	0.37	0.00	0.96	7.65	0.01
Maximum	6.40	0.00	1.31	8.00	1.00
Count of Results	189	189	215	189	189

Compliance with D3 disinfection criteria

Not met*

Comments:

*Not met due to one result in August where FAC result was less than 0.1 mg/L. Only 82.4% of results in August were greater than 0.2 mg/L where 85% is the minimum requirement. From a total of 52 results were reported for the Jul-Sep period.

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

Otara / Papatoetoe / Manukau Central Distribution Network Zone

Supplied by: Ardmore, and Waikato WTPs

	Turbidity	<i>E. coli</i>	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.10	0.00	0.05	7.20	0.00
Median	0.25	0.00	1.03	7.60	0.00
Average	0.29	0.00	1.01	7.63	0.01
Maximum	7.60	0.00	1.40	8.00	3.00
Count of Results	334	334	374	334	334

Compliance with D3 disinfection criteria

Not met*

Comments:

*Not met due to one result in January where the FAC result was less than 0.1 mg/L. A total of 85 results were reported 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.

Patumahoe Distribution Network Zone

Supplied by: Ardmore, Pukekohe, and Waikato WTPs

	Turbidity	<i>E. coli</i>	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.00	0.00	0.35	7.20	0.00
Median	0.30	0.00	0.97	7.70	0.00
Average	0.34	0.00	0.92	7.69	0.00
Maximum	5.10	0.00	1.63	8.10	0.00
Count of Results	135	135	174	135	135

Compliance with D3 disinfection criteria

Met

Snells / Algies Distribution Network Zone

Supplied by: Snells / Algies WTPs

	Turbidity	<i>E. coli</i>	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	0.00	0.00	1.18	8.40	0.00
Average	0.03	0.00	1.16	8.33	0.00
Maximum	0.25	0.00	1.72	8.50	0.00
Count of Results	105	105	156	105	105
Compliance with D3 disinfection criteria			Met		

Swanson Distribution Network Zone

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

	Turbidity	<i>E. coli</i>	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.10	0.00	0.32	7.20	0.00
Median	0.20	0.00	0.85	7.80	0.00
Average	0.54	0.01	0.83	7.84	0.00
Maximum	29.00	1.00	1.51	8.60	0.00
Count of Results	172	172	197	172	172
Compliance with D3 disinfection criteria		Not Met*	Met		

Comments:

* Not met due to one result in February in a sample taken from the Swanson zone exceeded *E. coli* MAV. An immediate 3-day resampling was carried out for all sampling points within the distribution zone as per the Drinking Water Safety Plan. All results were found compliant with the DWSNZ 2022 and no *E. coli* was detected.

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

Te Henga Distribution Network Zone

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

	Turbidity	<i>E. coli</i>	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.15	0.00	0.05	7.40	0.00
Median	0.20	0.00	0.75	8.00	0.00
Average	0.21	0.00	0.71	7.99	0.00
Maximum	0.45	0.00	1.25	8.60	0.00
Count of Results	137	137	163	137	137

Compliance with D3 disinfection criteria

Not met*

Comments:

*Not met due to one result in December where the FAC was less than 0.1 mg/L.
Two results in May where the FAC result was less than 0.10 mg/L. Only 80% of FAC results in May were greater than 0.20 mg/L where the minimum requirement is 85%. A total of 46 results 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	<i>E. coli</i>	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.00	0.00	0.56	7.90	0.00
Median	0.00	0.00	0.96	8.00	0.00
Average	0.04	0.00	0.95	7.99	0.00
Maximum	0.45	0.00	1.29	8.20	0.00
Count of Results	119	119	158	119	119

Compliance with D3 disinfection criteria

Met

Warkworth Distribution Network Zone

Supplied by: Warkworth Wells WTP

	Turbidity	<i>E. coli</i>	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.00	0.00	0.08	7.30	0.00
Median	0.00	0.00	0.70	7.60	0.00
Average	0.03	0.00	0.73	7.60	0.01
Maximum	0.25	0.00	1.54	7.80	1.00
Count of Results	104	104	156	104	104

Compliance with D3 disinfection criteria

Not met*

Comments:

*Not met due to one result in May where the FAC result was less than 0.10 mg/L. Watercare reported that the service reservoir was re-chlorinated. A total of 39 results 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.

Wellsford/Te Hana Distribution Network Zone

Supplied by: Wellsford WTP

	Turbidity	<i>E. coli</i>	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.00	0.00	0.02	7.10	0.00
Median	0.15	0.00	0.49	7.40	0.00
Average	0.15	0.00	0.50	7.40	0.00
Maximum	0.60	0.00	1.25	7.60	0.00
Count of Results	104	104	157	104	104

Compliance with D3 disinfection criteria

Not met*

Comments:

*Not met due to one result in December where the FAC result was less than 0.1 mg/L. Only 77% of results in December 2024 were greater than 0.2 mg/L where 85% is the minimum requirement. A total of 36 results were reported for the Oct-Dec period.

Four results in January and two results in February where the FAC was less than 0.1 mg/L. Only 42.9% of results in January and 75% of results in February where the FAC was greater than 0.2 mg/L where 85% is the minimum requirement. A total of 35 results were reported 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.

Whenuapai Distribution Network Zone

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

	Turbidity	<i>E. coli</i>	Chlorine Residual	pH	Total coliforms
	NTU	MPN/100 mL	mg/L	pH unit	MPN/100 mL
Minimum	0.00	0.00	0.46	7.30	0.00
Median	0.20	0.00	0.88	7.60	0.00
Average	0.22	0.00	0.87	7.62	0.00
Maximum	1.10	0.00	1.35	8.10	0.00
Count of Results	208	208	222	209	208
compliance with D3 disinfection criteria			Met		