

Annual Water Quality Report

June 2019 – July 2020

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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 Grading 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 2005 (Revised 2018) (**DWSNZ**).

A Maximum Acceptable Value (**MAV**) is the concentration of a microbial or chemical constituent below which the presence of the determinand does not pose any significant risk to the health of the consumer over a lifetime consumption of that water.

A Guideline Value (**GV**) 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 GVs may contribute to consumer complaints regarding the aesthetic qualities of a drinking water supply.

Where the MAV for a determinand was exceeded, Watercare responded in accordance with the DWSNZ, including notifying the Auckland Regional Public Health Service (**ARPHS**) 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 DWSNZ.

The report is presented in two parts, the first part detailing WTP data and the second part details the Distribution Network data.

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. 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 Section 2 of Drinking Water Standards for New Zealand 2005 (Revised 2018), which is available on the Ministry of Health's website.

Distribution Network Data

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

Drinking-water Standards for New Zealand 2005 (Revised 2018) MAVs and GVs

Determinand	GV	MAV	Unit
Chlorine Residual	0.6 - 1.0	5.0	mg/L
pH	7.0 - 8.5	-	pH unit
Turbidity	2.5	-	NTU
<i>E. coli</i> (<i>Escherichia coli</i>)	-	<1.0/100mL	MPN/100mL
Total coliforms	-	-	MPN/100mL

List of Water Treatment Plants and the Distribution Network Grading Zones Supplied

Water Treatment Plant	Grading 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
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
Onehunga (Local)	Onehunga
Onehunga (Metro)	Auckland, Hillsborough
Snells / Algies	Snells / Algies
Victoria Avenue	Waiuku

Water Treatment Plant	Grading 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
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 DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
1080 (Sodium fluoroacetate)	mg/L	1	ND	ND	ND	0.0001	0.0035		✓
2,4,5- trichlorophenoxyacetic acid (2,4,5-T)	mg/L	4	ND	ND	ND	0.0001			
2,4-Dichlorophenoxyacetic acid (2,4-BD)	mg/L	4	ND	ND	ND	0.0001			
4-(2,4-dichlorophenoxy) butanoic acid (2,4-DB)	mg/L	4	ND	ND	ND	0.0001			
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	0.002		✓
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 DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
UV absorbance at 254nm	Abs units	119	0.021	0.008	0.013	0.002			
Alkalinity (Total) as CaCO ₃	mg/L	52	19	14	17	1			
Aluminium	mg/L	52	0.048	0.017	0.023	0.005		0.1	
Bromate	mg/L	13	ND	ND	ND	0.005	0.01		✓
Bromide	mg/L	13	0.03	0.010	0.02	0.01			
Calcium	mg/L	13	8.8	5.2	6.7	0.01			
Calcium Hardness	mg/L	13	22	13	17	0.025			

Chemical and Physical cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Chlorate	mg/L	13	ND	ND	ND	0.01	0.8		✓
Chloride	mg/L	13	14.39	11.30	13.20	0.02		250	
Chlorine Residual	mg/L	366	1.66	0.39	1.39	0.02	5	0.6-1.0	✓
Chlorite	mg/L	13	ND	ND	ND	0.005	0.8		✓
Colour	Hazen Units	13	ND	ND	ND	5		10	
Conductivity	mS/m	13	13.5	9.7	10.9	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.005	0.6		✓
Fluoride	mg/L	53	0.9	0.65	0.7	0.02	1.5		✓
Iodide	mg/L	4	0.005	0.004	0.004	0.002			
Iron	mg/L	52	0.062	0.007	0.014	0.002		0.2	
Magnesium	mg/L	13	1.80	1.30	1.53	0.001			
Magnesium Hardness	mg/L	13	7.300	5.300	6.338	0.0041			
Manganese	mg/L	52	0.0710	0.0013	0.0045	0.0005	0.4	0.04	✓
pH	pH Units	366	8.9	6.4	7.6	0.1		7.0-8.5	
Potassium	mg/L	4	1.2	0.9	1.1	0.1			
Silicon	mg/L	4	13.0	12.0	12.3	0.1			
Sodium	mg/L	4	9.9	7.6	8.5	0.1		200	
Sulphate	mg/L	4	10.1	7.6	8.8	0.02		250	
Suspended Solids	mg/L	13	0.8	ND	0.1	0.2			
Total Hardness	mg/L	13	30.00	19.00	23.20	0.029		200	
Total Organic Carbon TOC	mg/L	13	1.1	0.7	0.9	0.1			
Turbidity	NTU	366	1.2	ND	ND	0.05		2.5	

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limits	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Confirmed Cryptosporidium per 100L	cysts/100 L	4	ND	ND	ND	1	<1		✓
Confirmed Giardia per 100L	cysts/100 L	4	ND	ND	ND	1	<1		✓
<i>E. coli</i>	MPN/100mL	366	ND	ND	ND	1	<1		✓

Nutrients									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Ammonia	mg/L	4	0.019	ND	0.005	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	4	0.006	0.003	0.005	0.005			
Nitrate (as NO ₃)	mg/L	4	0.261	0.133	0.215	0.009	50		✓
Nitrite (as NO ₂)	mg/L	4	ND	ND	ND	0.007	0.2		✓
TKN (Total Kjeldahl Nitrogen)	mg/L	4	ND	ND	ND	0.1			
Total Phosphorus	mg/L	4	0.051	0.004	0.017	0.005			

Plasticizers									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
bis (2-ethylhexyl) adipate	µg/L	4	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	4	ND	ND	ND	2	9		✓

Polycyclic Aromatic Hydrocarbons									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Benzo(a)pyrene	µg/L	4	ND	ND	ND	0.1	0.7		✓

Semi Volatile Organic Compounds									
Organochlorine Pesticides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
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	2		✓
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			
Pyrimiphos methyl	µg/L	4	ND	ND	ND	0.2	100		✓

Trace Elements									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Antimony	mg/L	4	ND	ND	ND	0.001	0.02		✓
Arsenic	mg/L	4	0.0002	0.0001	0.0002	0.0001	0.01		✓
Barium	mg/L	4	0.0069	0.0055	0.0064	0.0002	0.7		✓
Boron	mg/L	13	0.014	ND	0.006	0.005	1.4		✓
Cadmium	mg/L	4	ND	ND	ND	0.00005	0.004		✓
Chromium	mg/L	4	ND	ND	ND	0.0001	0.05		✓
Copper	mg/L	4	0.0005	ND	0.0003	0.0002	2		✓
Lead	mg/L	4	ND	ND	ND	0.0001	0.01		✓
Lithium	mg/L	4	0.0005	0.0004	0.0004	0.0001			
Mercury	mg/L	4	ND	ND	ND	0.00005	0.007		✓
Molybdenum	mg/L	4	ND	ND	ND	0.0003	0.07		✓
Nickel	mg/L	4	0.0001	ND	ND	0.0001	0.08		✓
Selenium	mg/L	4	ND	ND	ND	0.0005	0.01		✓
Zinc	mg/L	4	ND	ND	ND	0.001		1.5	

Trihalomethanes									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Bromodichloromethane	mg/L	52	0.0072	0.0014	0.0045	0.0001	0.06		✓
Bromoform	mg/L	52	0.0029	ND	0.0010	0.0001	0.1		✓
Chloroform	mg/L	52	0.0065	ND	0.0028	0.0001	0.4		✓
Dibromochloromethane	mg/L	52	0.0088	ND	0.0049	0.0001	0.15		✓
THM Sum Ratio		52	0.20	0.06	0.12		1		✓

Volatile Organic Compounds									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
1,1,1-trichloroethane	mg/L	4	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	4	ND	ND	ND	0.0001			
1,2,4-trichlorobenzene	mg/L	4	ND	ND	ND	0.0001			
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			
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	0.02		✓

Halo Acetic Acids (HAAs)									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Bromoacetic Acid	mg/L	13	ND	ND	ND	0.0005			
Bromochloroacetic Acid	mg/L	13	0.0050	0.0013	0.0029	0.0005			
Monochloroacetic Acid	mg/L	13	ND	ND	ND	0.0005	0.02		✓
Dibromoacetic Acid	mg/L	13	0.0034	ND	0.0019	0.0005			
Dichloroacetic Acid	mg/L	13	0.0044	ND	0.0018	0.0005	0.05		✓
Trichloroacetic Acid	mg/L	13	0.0026	ND	0.0006	0.0005	0.2		✓
HAA Sum Ratio		13	0.0920	ND	0.0388				

Ardmore WTP B1 Block Treated Water

The Ardmore B1 Block treated water tank was shut down for maintenance from 8/02/2019 until 25/06/2020. Laboratory sampling was not undertaken during this time. Results for samples taken during the operational period of 7 days are given below.

Chemical and Physical									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
UV absorbance at 254nm	abs units	3	0.015	0.012	0.013	0.002			
Alkalinity (Total) as CaCO ₃	mg/L	2	22	19	21	1			
Aluminium	mg/L	2	0.021	0.019	0.020	0.005		0.1	
Chlorine Residual	mg/L	7	1.80	0.78	1.28	0.02	5	0.6-1.0	✓
Fluoride	mg/L	2	0.73	0.72	0.73	0.02	1.5		✓
Iron	mg/L	2	0.016	0.013	0.015	0.002		0.2	
Manganese	mg/L	2	0.0035	0.0033	0.0034	0.0005	0.4	0.04	✓
pH	mg/L	7	9.1	7.8	8.4	0.1		7.0-8.5	
Turbidity	mg/L	7	0.3	0.1	0.2	0.05		2.5	

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Confirmed Cryptosporidium per 100L	cysts/100 L	1	ND	ND	ND	1	<1		✓
Confirmed Giardia per 100L	cysts/100 L	1	ND	ND	ND	1	<1		✓
<i>E. coli</i>	MPN/100mL	7	ND	ND	ND	1	<1		✓

Trihalomethanes									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Bromodichloromethane	mg/L	2	0.0057	0.0160	0.1085	0.0001	0.06		✓
Bromoform	mg/L	2	0.0025	0.0012	0.0019	0.0001	0.1		✓
Chloroform	mg/L	2	0.0170	0.0042	0.0106	0.0001	0.4		✓
Dibromochloromethane	mg/L	2	0.0130	0.0063	0.0096	0.0001	0.15		✓
THM Sum Ratio		2	0.43	0.16	0.29		1		✓

Ardmore WTP B2 Block Treated Water

Acid Herbicides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
1080 (Sodium fluoroacetate)	mg/L	1	ND	ND	ND	0.0001	0.0035		✓
2,4,5- trichlorophenoxyacetic acid (2,4,5-T)	mg/L	4	ND	ND	ND	0.0001			
2,4-Dichlorophenoxyacetic acid (2,4-BD)	mg/L	4	ND	ND	ND	0.0001			
4-(2,4-dichlorophenoxy) butanoic acid (2,4-DB)	mg/L	4	ND	ND	ND	0.0001			
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	0.002		✓
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 DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
UV absorbance at 254nm	abs units	116	0.130	0.008	0.014	0.002			
Alkalinity (Total) as CaCO ₃	mg/L	51	19	14	17	1			
Aluminium	mg/L	52	0.130	0.018	0.031	0.005		0.1	
Bromate	mg/L	13	ND	ND	ND	0.005	0.01		✓
Bromide	mg/L	13	0.03	0.01	0.02	0.01			
Calcium	mg/L	13	8.6	6.0	10.0	0.01			
Calcium Hardness	mg/L	13	22	15	17	0.025			
Chlorate	mg/L	13	ND	ND	ND	0.01	0.8		✓
Chloride	mg/L	13	14.40	12.00	13.18	0.02		250	

Chemical and Physical cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Chlorine Residual	mg/L	358*	1.87	0.80	1.34	0.02	5	0.6-1.0	✓
Chlorite	mg/L	13	ND	ND	ND	0.005	0.8		✓
Colour	Hazen Units	13	ND	ND	ND	5		10	
Conductivity	mS/m	13	11.5	9.8	10.7	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.005	0.6		✓
Fluoride	mg/L	52	0.90	0.64	0.73	0.02	1.5		✓
Iodide	mg/L	4	0.008	0.004	0.005	0.002			
Iron	mg/L	52	0.240	0.008	0.028	0.002		0.2	
Magnesium	mg/L	13	1.80	1.3	1.54	0.001			
Magnesium Hardness	mg/L	13	7.400	5.200	6.285	0.0041			
Manganese	mg/L	52	0.0270	0.0013	0.0040	0.0005	0.4	0.04	✓
pH	pH Units	358*	7.9	7.2	7.6	0.1		7.0-8.5	
Potassium	mg/L	4	1.2	0.9	1.1	0.1			
Silicon	mg/L	4	12.0	12.0	12.0	0.1			
Sodium	mg/L	4	9.5	7.4	8.3	0.1		200	
Sulphate	mg/L	4	10.10	7.60	8.82	0.02		250	
Suspended Solids	mg/L	13	1.7	ND	0.3	0.2			
Total Hardness	mg/L	13	30	21	24	0.029		200	
Total Organic Carbon TOC	mg/L	13	1.1	0.6	0.9	0.1			
Turbidity	NTU	358*	1.7	ND	0.2	0.05		2.5	

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Confirmed Cryptosporidium per 100L	cysts/100 L	4	ND	ND	ND	1	<1		✓
Confirmed Giardia per 100L	cysts/100 L	4	ND	ND	ND	1	<1		✓
<i>E. coli</i>	MPN/100mL	358*	1**	ND	ND	1	<1		✓

*The Ardmore B2 block treated water tank was shut down for upgrades on 22/06/2020. Laboratory sampling for *E. coli*, chlorine residual, pH and turbidity was not undertaken while this treated water tank was isolated.

** An investigation into one positive *E. coli* result from the Ardmore WTP B2 Block Treated Water sample point determined this result to be not representative of the water quality supplied from this WTP.

Nutrients									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Ammonia	mg/L	4	ND	ND	ND	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	4	0.006	ND	0.005	0.005			
Nitrate (as NO ₃)	mg/L	4	0.270	0.128	0.217	0.009	50		✓
Nitrite (as NO ₂)	mg/L	4	0.013	ND	0.003	0.007	0.2		✓
TKN (Total Kjeldahl Nitrogen)	mg/L	4	ND	ND	ND	0.1			
Total Phosphorus	mg/L	4	0.054	0.004	0.017	0.005			

Plasticizers									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
bis (2-ethylhexyl) adipate	µg/L	4	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	4	ND	ND	ND	2	9		✓

Polycyclic Aromatic Hydrocarbons									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Benzo(a)pyrene	µg/L	4	ND	ND	ND	0.1	0.7		✓

Semi Volatile Organic Compounds									
Organochlorine Pesticides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
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	2		✓
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		✓
Terbuthilazine	µg/L	4	ND	ND	ND	0.2	8		✓
Trifluralin	µg/L	4	ND	ND	ND	0.2	30		✓

Organophosphorus Pesticides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Chlorpyrifos	µg/L	4	ND	ND	ND	0.2	40		✓
Diazinon	µg/L	4	ND	ND	ND	0.1			
Pirymiphos methyl	µg/L	4	ND	ND	ND	0.2	100		✓

Trace Elements									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Antimony	mg/L	4	ND	ND	ND	0.001	0.02		✓
Arsenic	mg/L	4	0.0002	0.0001	0.0001	0.0001	0.01		✓
Barium	mg/L	4	0.0074	0.0052	0.0066	0.0002	0.7		✓
Boron	mg/L	13	0.014	ND	0.005	0.005	1.4		✓
Cadmium	mg/L	4	ND	ND	ND	0.00005	0.004		✓
Chromium	mg/L	4	0.0005	ND	0.0001	0.0001	0.05		✓
Copper	mg/L	4	0.0003	ND	0.0002	0.0002	2		✓
Lead	mg/L	4	ND	ND	ND	0.0001	0.01		✓
Lithium	mg/L	4	0.0005	0.0003	0.0004	0.0001			
Mercury	mg/L	4	ND	ND	ND	0.00005	0.007		✓
Molybdenum	mg/L	4	ND	ND	ND	0.0003	0.07		✓
Nickel	mg/L	4	0.0001	ND	ND	0.0001	0.08		✓
Selenium	mg/L	4	ND	ND	ND	0.0005	0.01		✓
Zinc	mg/L	4	0.002	ND	0.001	0.001		1.5	

Trihalomethanes									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Bromodichloromethane	mg/L	52	0.0110	0.0021	0.0056	0.0001	0.06		✓
Bromoform	mg/L	52	0.0028	ND	0.0012	0.0001	0.1		✓
Chloroform	mg/L	52	0.0073	ND	0.0032	0.0001	0.4		✓
Dibromochloromethane	mg/L	52	0.0140	ND	0.0061	0.0001	0.15		✓
THM Sum Ratio		52	0.32	0.07	0.15		1		✓

Volatile Organic Compounds									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
1,1,1-trichloroethane	mg/L	4	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	4	ND	ND	ND	0.0001			
1,2,4-trichlorobenzene	mg/L	4	ND	ND	ND	0.0001			
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			
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	0.02		✓

Halo Acetic Acids (HAAs)									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Bromoacetic Acid	mg/L	13	ND	ND	ND	0.0005			
Bromochloroacetic Acid	mg/L	13	0.0058	0.0010	0.0031	0.0005			
Monochloroacetic Acid	mg/L	13	ND	ND	ND	0.0005	0.02		✓
Dibromoacetic Acid	mg/L	13	0.0034	ND	0.0019	0.0005			
Dichloroacetic Acid	mg/L	13	0.0042	ND	0.0018	0.0005	0.05		✓
Trichloroacetic Acid	mg/L	13	0.0025	ND	0.0006	0.0005	0.2		✓
HAA Sum Ratio		13	0.0890	ND	0.0382				

Bombay WTP Treated Water

Acid Herbicides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
2,4,5- trichlorophenoxyacetic acid (2,4,5-T)	mg/L	13	ND	ND	ND	0.0001			
2,4-Dichlorophenoxyacetic acid (2,4-BD)	mg/L	13	ND	ND	ND	0.0001			
4-(2,4-dichlorophenoxy) butanoic acid (2,4-DB)	mg/L	13	ND	ND	ND	0.0001			
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 DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Alkalinity (Total) as CaCO ₃	mg/L	4	88	68	77	1			
Aluminium	mg/L	4	0.007	ND	0.002	0.005		0.1	
Bromate	mg/L	4	ND	ND	ND	0.005	0.01		✓
Bromide	mg/L	4	0.04	0.03	0.03	0.01			
Calcium	mg/L	4	15.0	13.0	13.5	0.01			
Calcium Hardness	mg/L	4	36.0	32.0	33.5	0.025			
Chlorate	mg/L	4	0.0110	ND	ND	0.01	0.8		✓
Chloride	mg/L	4	80.80	31.00	68.30	0.02		250	
Chlorine Residual	mg/L	122	1.38	0.48	0.88	0.02	5	0.6-1.0	✓
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 DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Colour	Hazen Units	1	ND	ND	ND	5		10	
Conductivity	mS/m	1	39.5	39.5	39.5	0.5			
Cyanide	mg/L	1	ND	ND	ND	0.005	0.6		✓
Fluoride	mg/L	4	0.04	0.02	0.03	0.02	1.5		✓
Iodide	mg/L	1	0.006	0.006	0.006	0.002			
Iron	mg/L	4	0.003	ND	0.002	0.002		0.2	
Magnesium	mg/L	4	14.00	13.00	13.25	0.001			
Magnesium Hardness	mg/L	4	57.000	52.000	54.750	0.0041			
Manganese	mg/L	4	ND	ND	ND	0.0005	0.4	0.04	✓
pH	pH Units	122	8.0	6.8	7.7	0.1		7.0-8.5	
Potassium	mg/L	1	1.5	1.5	1.5	0.1			
Silicon	mg/L	1	48.0	48.0	48.0	0.1			
Sodium	mg/L	1	46.0	46.0	46.0	0.1		200	
Sulphate	mg/L	1	4.80	4.80	4.80	0.02		250	
Suspended Solids	mg/L	1	0.3000	0.3000	0.3000	0.2			
Total Dissolved Solids	mg/L	1	240	240	240	15		1000	
Total Hardness	mg/L	4	94.00	84.00	88.50	0.029		200	
Total Organic Carbon TOC	mg/L	13	1.2	0.10	0.4	0.1			
Turbidity	NTU	122	0.8	ND	0.1	0.05		2.5	

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
<i>E. coli</i>	MPN/100mL	122	ND	ND	ND	1	<1		✓

Nutrients									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Ammonia	mg/L	4	0.013	ND	0.003	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	1	0.056	0.056	0.056	0.005			
Nitrate (as NO ₃)	mg/L	53	14.171	0.111	5.475	0.009	50		✓
Nitrite (as NO ₂)	mg/L	1	ND	ND	ND	0.007	0.20		✓
TKN (Total Kjeldahl Nitrogen)	mg/L	1	ND	ND	ND	0.1			
Total Phosphorus	mg/L	1	0.083	0.083	0.083	0.005			

Plasticizers									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
bis (2-ethylhexyl) adipate	µg/L	4	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	4	ND	ND	ND	2	9		✓

Polycyclic Aromatic Hydrocarbons									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Benzo(a)pyrene	µg/L	4	ND	ND	ND	0.1	0.7		✓

Semi Volatile Organic Compounds									
Organochlorine Pesticides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Aldrin + Dieldrin	µg/L	4	ND	ND	ND	0.01	0.04		✓
Chlordane	µg/L	4	ND	ND	ND	0.01	0.2		✓
Lindane	µg/L	4	ND	ND	ND	0.01	2		✓
Heptachlor	µg/L	4	ND	ND	ND	0.01			
Heptachlor epoxide	µg/L	4	ND	ND	ND	0.01			

Organochlorine Pesticides cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
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	2		✓
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		✓
Terbuthilazine	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			
Pirymiphos methyl	µg/L	4	ND	ND	ND	0.2	100		✓

Trace Elements									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Antimony	mg/L	1	ND	ND	ND	0.001	0.02		✓
Arsenic	mg/L	1	ND	ND	ND	0.0001	0.01		✓
Barium	mg/L	1	0.002	0.002	0.002	0.0002	0.7		✓
Boron	mg/L	1	0.005	0.005	0.005	0.005	1.4		✓
Cadmium	mg/L	4	ND	ND	ND	0.00005	0.004		✓

Trace Elements cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Chromium	mg/L	1	ND	ND	ND	0.0001	0.05		✓
Copper	mg/L	4	0.0006	0.0005	0.0005	0.0002	2		✓
Lead	mg/L	1	ND	ND	ND	0.0001	0.01		✓
Lithium	mg/L	1	0.0004	0.0004	0.0004	0.0001			
Mercury	mg/L	1	ND	ND	ND	0.00005	0.007		✓
Molybdenum	mg/L	1	ND	ND	ND	0.0003	0.07		✓
Nickel	mg/L	1	ND	ND	ND	0.0001	0.08		✓
Selenium	mg/L	1	ND	ND	ND	0.0005	0.01		✓
Zinc	mg/L	1	0.002	0.002	0.002	0.001		1.5	

Trihalomethanes									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Bromodichloromethane	mg/L	14	0.0011	ND	0.0001	0.0001	0.06		✓
Bromoform	mg/L	14	0.0012	ND	0.0001	0.0001	0.1		✓
Chloroform	mg/L	14	0.0007	ND	ND	0.0001	0.4		✓
Dibromochloromethane	mg/L	14	0.0024	ND	0.0002	0.0001	0.15		✓
THM Sum Ratio		14	0.05	ND	ND		1		✓

Volatile Organic Compounds									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
1,1,1-trichloroethane	mg/L	1	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	1	ND	ND	ND	0.0001			
1,2,4-trichlorobenzene	mg/L	1	ND	ND	ND	0.0001			
1,2-dichlorobenzene	mg/L	1	ND	ND	ND	0.0001	1.5	0.001	✓
1,2-dichloroethane	mg/L	1	ND	ND	ND	0.0001	0.03		✓

Volatile Organic Compounds cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
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			
Ethylbenzene	mg/L	1	ND	ND	ND	0.0001	0.3	0.002	✓
Xylenes (total)	mg/L	1	ND	ND	ND	0.0001	0.6	0.02	✓
Styrene	mg/L	1	ND	ND	ND	0.0001	0.03	0.004	✓
Tetrachloroethene	mg/L	1	ND	ND	ND	0.0001	0.05		✓
Toluene	mg/L	1	ND	ND	ND	0.0001	0.8	0.03	✓
Trichloroethene	mg/L	1	ND	ND	ND	0.0001	0.02		✓

Halo Acetic Acids (HAAs)									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
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	ND	ND	ND	0.0005	0.02		✓
Dibromoacetic Acid	mg/L	4	0.0015	ND	0.0005	0.0005			
Dichloroacetic Acid	mg/L	4	0.0021	ND	0.0005	0.0005	0.05		✓
Trichloroacetic Acid	mg/L	4	0.0013	ND	0.0003	0.0005	0.2		✓
HAA Sum Ratio		4	0.0430	ND	0.0123				

Cornwall Road WTP Treated Water

Chemical and Physical									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Alkalinity (Total) as CaCO ₃	mg/L	4	140.000	130.000	132.500	1.000			
Aluminium	mg/L	1	ND	ND	ND	0.005		0.1	
Bromate	mg/L	1	ND	ND	ND	0.005	0.01		✓
Bromide	mg/L	1	0.049	0.049	0.049	0.010			
Calcium	mg/L	14	35.000	29.000	32.000	0.010			
Calcium Hardness	mg/L	14	87.000	72.000	79.710	0.025			
Chlorate	mg/L	1	ND	ND	ND	0.010	0.80		✓
Chloride	mg/L	1	33.000	33.000	33.000	0.020		250	
Chlorine Residual	mg/L	122	1.180	0.320	0.748	0.020	5.00	0.6-1.0	✓
Chlorite	mg/L	1	ND	ND	ND	0.005	0.80		✓
Colour	Hazen Units	1	ND	ND	ND	5.000		10	
Conductivity	mS/m	1	35.800	35.800	35.800	0.500			
Cyanide	mg/L	1	ND	ND	ND	0.005	0.60		✓
Fluoride	mg/L	1	0.054	0.054	0.054	0.020	1.50		✓
Iodide	mg/L	1	0.004	0.004	0.004	0.002			
Iron	mg/L	14	0.003	ND	ND	0.002		0.2	
Magnesium	mg/L	14	11.000	8.800	9.790	0.001			
Magnesium Hardness	mg/L	14	44.000	36.000	40.500	0.004			
Manganese	mg/L	14	ND	ND	ND	0.0005	0.40	0.04	✓
pH	pH Units	122	8.1	7.3	8.0	0.100		7.0-8.5	
Potassium	mg/L	1	3.400	3.400	3.400	0.100			
Silicon	mg/L	1	57.000	57.000	57.000	0.100			
Sodium	mg/L	1	20.000	20.000	20.000	0.100		200	
Sulphate	mg/L	1	5.200	5.200	5.200	0.020		250	
Total Dissolved Solids	mg/L	1	270.000	270.000	270.000	15.000		1000	

Chemical and Physical cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Suspended Solids	mg/L	1	0.200	0.200	0.200	0.200			
Total Hardness	mg/L	5	96.000	61.000	80.000	0.029		200	
Turbidity	NTU	122	0.300	ND	0.107	0.05		2.5	

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
<i>E. coli</i>	MPN/100mL	122	ND	ND	ND	1	<1		✓

Nutrients									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Ammonia	mg/L	1	0.008	0.008	0.008	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	1	0.046	0.046	0.046	0.005			
Nitrate (as NO ₃)	mg/L	1	0.137	0.137	0.137	0.009	50		✓
Nitrite (as NO ₂)	mg/L	1	ND	ND	ND	0.007	0.20		✓
TKN (Total Kjeldahl Nitrogen)	mg/L	1	0.460	0.460	0.460	0.1			
Total Phosphorus	mg/L	1	0.047	0.047	0.047	0.005			

Plasticizers									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
bis (2-ethylhexyl) adipate	µg/L	1	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	1	ND	ND	ND	2	9		✓

Polycyclic Aromatic Hydrocarbons									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Benzo(a)pyrene	µg/L	1	ND	ND	ND	0.1	0.7		✓

Semi Volatile Organic Compounds									
Organochlorine Pesticides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
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	2		✓
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		✓
Terbuthilazine	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 DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
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 DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Antimony	mg/L	1	ND	ND	ND	0.001	0.02		✓
Arsenic	mg/L	14	0.0050	0.0044	0.0047	0.0001	0.01		✓
Barium	mg/L	1	0.0004	0.0004	0.0004	0.0002	0.7		✓
Boron	mg/L	1	0.014	0.014	0.014	0.005	1.4		✓
Cadmium	mg/L	1	ND	ND	ND	0.00005	0.004		✓
Chromium	mg/L	1	0.0007	0.0007	0.0007	0.0001	0.05		✓
Copper	mg/L	1	ND	ND	ND	0.0002	2		✓
Lead	mg/L	1	ND	ND	ND	0.0001	0.01		✓
Lithium	mg/L	1	0.0100	0.0100	0.0100	0.0001			
Mercury	mg/L	1	ND	ND	ND	0.00005	0.007		✓
Molybdenum	mg/L	1	ND	ND	ND	0.0003	0.07		✓
Nickel	mg/L	1	ND	ND	ND	0.0001	0.08		✓
Selenium	mg/L	1	ND	ND	ND	0.0005	0.01		✓
Zinc	mg/L	1	0.001	0.001	0.001	0.001		1.5	

Trihalomethanes									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Bromodichloromethane	mg/L	14	0.0010	ND	0.0001	0.0001	0.06		✓
Bromoform	mg/L	14	0.0013	ND	0.0001	0.0001	0.1		✓

Trihalomethanes cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Chloroform	mg/L	14	0.0007	ND	ND	0.0001	0.4		✓
Dibromochloromethane	mg/L	14	0.0025	ND	0.0002	0.0001	0.15		✓
THM Sum Ratio		14	0.05	ND	ND		1		✓

Volatile Organic Compounds									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
1,1,1-trichloroethane	mg/L	1	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	1	ND	ND	ND	0.0001			
1,2,4-trichlorobenzene	mg/L	1	ND	ND	ND	0.0001			
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			
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	0.004	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	0.02		✓

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Acid Herbicides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
2,4,5- trichlorophenoxyacetic acid (2,4,5-T)	mg/L	12	ND	ND	ND	0.0001			
2,4-Dichlorophenoxyacetic acid (2,4-BD)	mg/L	12	ND	ND	ND	0.0001			
4-(2,4-dichlorophenoxy) butanoic acid (2,4-DB)	mg/L	12	ND	ND	ND	0.0001			
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	0.002		✓
Mecoprop	mg/L	12	ND	ND	ND	0.0001	0.01		✓
Picloram	mg/L	12	ND	ND	ND	0.0001	0.2		✓
Triclopyr	mg/L	12	ND	ND	ND	0.0001	0.1		✓

Chemical and Physical									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
UV absorbance at 254nm	Abs units	51	0.087	ND	0.018	0.002			
Alkalinity (Total) as CaCO ₃	mg/L	52	110	38	79	1			
Aluminium	mg/L	52	0.049	0.011	0.015	0.005		0.1	
Bromate	mg/L	4	ND	ND	ND	0.005	0.01		✓
Bromide	mg/L	4	0.19	0.04	0.12	0.01			
Calcium	mg/L	13	22	12	17	0.01			
Calcium Hardness	mg/L	13	55.00	30.00	43.46	0.025			
Chlorate	mg/L	4	ND	ND	ND	0.01	0.8		✓
Chloride	mg/L	4	77.60	55.70	65.93	0.02		250	
Chlorine Residual	mg/L	122	1.99	0.41	1.37	0.02	5	0.6-1.0	✓

Chemical and Physical cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Chlorite	mg/L	4	ND	ND	ND	0.005	0.8		✓
Colour	Hazen Units	4	ND	ND	ND	5		10	
Conductivity	mS/m	15	58.2	37.9	49.3	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.005	0.6		✓
Fluoride	mg/L	12	0.06	ND	0.04	0.02	1.5		✓
Iodide	mg/L	4	0.003	ND	0.001	0.002			
Iron	mg/L	13	0.004	ND	0.001	0.002		0.2	
Magnesium	mg/L	13	20.0	10.0	14.8	0.001			
Magnesium Hardness	mg/L	13	84	42	61.8	0.0041			
Manganese	mg/L	13	0.0052	0.0009	0.0031	0.0005	0.4	0.04	✓
pH	pH Units	122	7.6	6.8	7.3	0.1		7.0-8.5	
Potassium	mg/L	4	4.1	2.4	3.3	0.1			
Silicon	mg/L	4	26.0	20.0	22.8	0.1			
Sodium	mg/L	4	58.0	39.0	48.3	0.1		200	
Sulphate	mg/L	4	58.50	40.90	53.10	0.02		250	
Suspended Solids	mg/L	13	0.30	ND	ND	0.2			
Total Dissolved Solids	mg/L	11	390	230	289	15		1000	
Total Hardness	mg/L	13	140	72	106	0.029		200	
Total Organic Carbon TOC	mg/L	52	2.4	0.4	1.4	0.1			
Turbidity	NTU	122	0.30	ND	0.1	0.05		2.5	

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
<i>E. coli</i>	MPN/100mL	122	ND	ND	ND	1	<1		✓

Nutrients									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Ammonia	mg/L	4	0.007	ND	0.002	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	12	0.009	0.003	0.005	0.005			
Nitrate (as NO ₃)	mg/L	13	4.549	4.444	4.481	0.009	50		✓
Nitrite (as NO ₂)	mg/L	13	ND	ND	ND	0.007	0.20		✓
TKN (Total Kjeldahl Nitrogen)	mg/L	4	0.1	ND	0.1	0.1			
Total Phosphorus	mg/L	12	0.063	ND	0.008	0.005			

Plasticizers									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
bis (2-ethylhexyl) adipate	µg/L	12	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	12	ND	ND	ND	2	9		✓

Polycyclic Aromatic Hydrocarbons									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Benzo(a)pyrene	µg/L	12	ND	ND	ND	0.1	0.7		✓

Semi Volatile Organic Compounds									
Organochlorine Pesticides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
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 DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
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	12	ND	ND	ND	0.1	2		✓
Metolachlor	µg/L	12	ND	ND	ND	0.1	10		✓
Molinate	µg/L	12	ND	ND	ND	0.1	7		✓
Pendimethalin	µg/L	12	ND	ND	ND	0.2	20		✓
Propanil	µg/L	12	ND	ND	ND	0.1			
Simazine	µg/L	12	ND	ND	ND	0.1	2		✓
Terbuthilazine	µg/L	12	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	12	ND	ND	ND	0.1			
Pirymiphos methyl	µg/L	12	ND	ND	ND	0.2	100		✓

Trace Elements									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Antimony	mg/L	4	ND	ND	ND	0.001	0.02		✓
Arsenic	mg/L	13	0.0004	ND	0.0002	0.0001	0.01		✓
Barium	mg/L	5	0.0240	0.0140	0.0182	0.0002	0.7		✓
Boron	mg/L	4	0.037	0.013	0.022	0.005	1.4		✓
Cadmium	mg/L	4	ND	ND	ND	0.00005	0.004		✓

Trace Elements cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Chromium	mg/L	4	ND	ND	ND	0.0001	0.05		✓
Copper	mg/L	4	0.0037	0.0008	0.0018	0.0002	2		✓
Lead	mg/L	4	0.0005	ND	ND	0.0001	0.01		✓
Lithium	mg/L	4	0.0031	0.0018	0.0026	0.0001			
Mercury	mg/L	4	0.00038	ND	0.00010	0.00005	0.007		✓
Molybdenum	mg/L	4	ND	ND	ND	0.0003	0.07		✓
Nickel	mg/L	4	0.0003	0.0002	0.0003	0.0001	0.08		✓
Selenium	mg/L	4	ND	ND	ND	0.0005	0.01		✓
Zinc	mg/L	4	0.004	0.002	0.003	0.001		1.5	

Trihalomethanes									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Bromodichloromethane	mg/L	52	0.0100	ND	0.0027	0.0001	0.06		✓
Bromoform	mg/L	52	0.0130	ND	0.0044	0.0001	0.1		✓
Chloroform	mg/L	52	0.0048	ND	0.0004	0.0001	0.4		✓
Dibromochloromethane	mg/L	52	0.0170	ND	0.0057	0.0001	0.15		✓
THM Sum Ratio		52	0.37	ND	0.13		1		✓

Volatile Organic Compounds									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
1,1,1-trichloroethane	mg/L	13	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	13	ND	ND	ND	0.0001			
1,2,4-trichlorobenzene	mg/L	13	ND	ND	ND	0.0001			
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		✓

Volatile Organic Compounds cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
1,4-dichlorobenzene	mg/L	13	ND	ND	ND	0.0001	0.4	0.0003	✓
Benzene	mg/L	13	ND	ND	ND	0.0001	0.01		✓
Carbon tetrachloride	mg/L	13	ND	ND	ND	0.0001			
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	0.02		✓

Halo Acetic Acids (HAAs)									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Bromoacetic Acid	mg/L	4	ND	ND	ND	0.0005			
Bromochloroacetic Acid	mg/L	4	0.0042	0.0006	0.0024	0.0005			
Monochloroacetic Acid	mg/L	4	ND	ND	ND	0.0005	0.02		✓
Dibromoacetic Acid	mg/L	4	0.0064	0.0015	0.0042	0.0005			
Dichloroacetic Acid	mg/L	4	0.0022	ND	0.0009	0.0005	0.05		✓
Trichloroacetic Acid	mg/L	4	ND	ND	ND	0.0005	0.2		✓
HAA Sum Ratio		4	0.0430	ND	0.0188				

Huia Village WTP Treated Water

Acid Herbicides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
2,4,5- trichlorophenoxyacetic acid (2,4,5-T)	mg/L	4	ND	ND	ND	0.0001			
2,4-Dichlorophenoxyacetic acid (2,4-BD)	mg/L	4	ND	ND	ND	0.0001			
4-(2,4-dichlorophenoxy) butanoic acid (2,4-DB)	mg/L	4	ND	ND	ND	0.0001			
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	0.002		✓
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 DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
UV absorbance at 254nm	Abs units	52	0.024	0.010	0.015	0.002			
Alkalinity (Total) as CaCO ₃	mg/L	51	25	15	22	1			
Aluminium	mg/L	51	0.470	ND	0.011	0.005		0.1	
Bromate	mg/L	13	ND	ND	ND	0.005	0.01		✓
Bromide	mg/L	13	0.05	0.01	0.03	0.01			
Calcium	mg/L	13	5.8	4.2	4.9	0.01			
Calcium Hardness	mg/L	13	15	10	12	0.025			
Chlorate	mg/L	13	0.32	0.06	0.14	0.01	0.8		✓
Chloride	mg/L	4	32.70	28.00	30.25	0.02		250	
Chlorine Residual	mg/L	122	1.87	0.75	1.24	0.02	5	0.6-1.0	✓

Chemical and Physical cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Chlorite	mg/L	13	ND	ND	ND	0.005	0.8		✓
Colour	Hazen Units	13	ND	ND	ND	5		10	
Conductivity	mS/m	13	17.5	15.3	16.4	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.005	0.6		✓
Fluoride	mg/L	13	0.66	ND	0.05	0.02	1.5		✓
Iodide	mg/L	4	0.005	0.002	0.003	0.002			
Iron	mg/L	13	0.009	ND	0.003	0.002		0.2	
Magnesium	mg/L	13	3.5	2.5	3.0	0.001			
Magnesium Hardness	mg/L	13	14	10	12	0.0041			
Manganese	mg/L	13	0.0005	ND	ND	0.0005	0.4	0.04	✓
pH	pH Units	122	8.0	7.3	7.7	0.1		7.0-8.5	
Potassium	mg/L	3	1.1	0.9	1.0	0.1			
Silicon	mg/L	3	14.0	13.0	13.3	0.1			
Sodium	mg/L	3	22.0	17.0	19.0	0.1		200	
Sulphate	mg/L	4	5.27	4.80	5.13	0.02		250	
Suspended Solids	mg/L	13	ND	ND	ND	0.2			
Total Hardness	mg/L	13	31	21	25	0.1		200	
Total Organic Carbon TOC	mg/L	13	3.0	1.0	1.3	0.1			
Turbidity	NTU	122	0.25	ND	0.1	0.05		2.5	

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
<i>E. coli</i>	MPN/100mL	122	ND	ND	ND	1	<1		✓

Nutrients									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Ammonia	mg/L	4	ND	ND	ND	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	4	0.004	0.002	0.003	0.005			
Nitrate (as NO ₃)	mg/L	4	0.235	0.106	0.173	0.009	50		✓
Nitrite (as NO ₂)	mg/L	4	0.023	ND	0.011	0.007	0.20		✓
TKN (Total Kjeldahl Nitrogen)	mg/L	4	0.1	ND	ND	0.1			
Total Phosphorus	mg/L	4	0.004	ND	0.002	0.005			

Plasticizers									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
bis (2-ethylhexyl) adipate	µg/L	4	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	4	ND	ND	ND	2	9		✓

Polycyclic Aromatic Hydrocarbons									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Benzo(a)pyrene	µg/L	4	ND	ND	ND	0.1	0.7		✓

Semi Volatile Organic Compounds									
Organochlorine Pesticides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
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 DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
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	2		✓
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		✓
Terbuthilazine	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			
Pyrimiphos methyl	µg/L	4	ND	ND	ND	0.2	100		✓

Trace Elements									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Antimony	mg/L	3	ND	ND	ND	0.001	0.02		✓
Arsenic	mg/L	3	0.0002	ND	0.0001	0.0001	0.01		✓
Barium	mg/L	3	0.0067	0.0041	0.0057	0.0002	0.7		✓
Boron	mg/L	3	0.015	ND	0.005	0.005	1.4		✓
Cadmium	mg/L	3	ND	ND	ND	0.00005	0.004		✓
Chromium	mg/L	3	ND	ND	ND	0.0001	0.05		✓
Copper	mg/L	3	ND	ND	ND	0.0002	2		✓

Trace Elements cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Lead	mg/L	3	ND	ND	ND	0.0001	0.01		✓
Lithium	mg/L	3	0.0005	0.0004	0.0005	0.0001			
Molybdenum	mg/L	3	ND	ND	ND	0.0003	0.07		✓
Nickel	mg/L	3	0.0007	0.0001	0.0004	0.0001	0.08		✓
Selenium	mg/L	3	ND	ND	ND	0.0005	0.01		✓
Zinc	mg/L	3	0.004	0.002	0.003	0.001		1.5	

Trihalomethanes									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Bromodichloromethane	mg/L	13	0.0073	0.0020	0.0044	0.0001	0.06		✓
Bromoform	mg/L	13	0.0038	ND	0.0021	0.0001	0.1		✓
Chloroform	mg/L	13	0.0045	ND	0.0015	0.0001	0.4		✓
Dibromochloromethane	mg/L	13	0.0140	0.0038	0.0073	0.0001	0.15		✓
THM Sum Ratio		13	0.25	0.08	0.15		1		✓

Volatile Organic Compounds									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
1,1,1-trichloroethane	mg/L	13	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	13	ND	ND	ND	0.0001			
1,2,4-trichlorobenzene	mg/L	13	ND	ND	ND	0.0001			
1,2-dichlorobenzene	mg/L	13	ND	ND	ND	0.0001	1.5	0.001	✓
1,2-dichloroethane	mg/L	13	ND	ND	ND	0.0001	0.03		✓
1,4-dichlorobenzene	mg/L	13	ND	ND	ND	0.0001	0.4	0.0003	✓
Benzene	mg/L	13	ND	ND	ND	0.0001	0.01		✓
Carbon tetrachloride	mg/L	13	ND	ND	ND	0.0001			

Volatile Organic Compounds cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
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	0.02		✓

Halo Acetic Acids (HAAs)									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Bromoacetic Acid	mg/L	4	ND	ND	ND	0.0005			
Bromochloroacetic Acid	mg/L	4	0.0035	0.0021	0.0027	0.0005			
Monochloroacetic Acid	mg/L	4	ND	ND	ND	0.0005	0.02		✓
Dibromoacetic Acid	mg/L	4	0.0031	0.0013	0.0025	0.0005			
Dichloroacetic Acid	mg/L	4	0.0021	ND	0.0008	0.0005	0.05		✓
Trichloroacetic Acid	mg/L	4	ND	ND	ND	0.0005	0.2		✓
HAA Sum Ratio		4	0.0420	ND	0.0160				

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Acid Herbicides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
2,4,5- trichlorophenoxyacetic acid (2,4,5-T)	mg/L	4	ND	ND	ND	0.0001			
2,4-Dichlorophenoxyacetic acid (2,4-BD)	mg/L	4	ND	ND	ND	0.0001			
4-(2,4-dichlorophenoxy) butanoic acid (2,4-DB)	mg/L	4	ND	ND	ND	0.0001			
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	0.002		✓
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 DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
UV absorbance at 254nm	Abs units	52	0.025	0.009	0.016	0.002			
Alkalinity (Total) as CaCO ₃	mg/L	52	20	12	17	1			
Aluminium	mg/L	52	0.800	0.015	0.051	0.005		0.1	
Bromate	mg/L	4	ND	ND	ND	0.005	0.01		✓
Bromide	mg/L	4	0.05	0.01	0.03	0.01			
Calcium	mg/L	13	10.0	8.1	9.2	0.01			
Calcium Hardness	mg/L	13	27	20	23	0.025			
Chlorate	mg/L	4	ND	ND	ND	0.01	0.8		✓
Chloride	mg/L	4	23.70	21.40	22.18	0.02		250	
Chlorine Residual	mg/L	366	1.67	0.64	1.17	0.02	5	0.6-1.0	✓

Chemical and Physical cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Chlorite	mg/L	4	ND	ND	ND	0.005	0.8		✓
Colour	Hazen Units	13	ND	ND	ND	5		10	
Conductivity	mS/m	13	16.9	14.2	15.5	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.005	0.6		✓
Fluoride	mg/L	52	0.79	0.62	0.68	0.02	1.5		✓
Iodide	mg/L	4	0.004	0.002	0.003	0.002			
Iron	mg/L	52	0.880	0.007	0.055	0.002		0.2	
Magnesium	mg/L	13	3.3	2.1	2.6	0.001			
Magnesium Hardness	mg/L	13	14.000	8.600	10.754	0.0041			
Manganese	mg/L	52	0.3000	0.0017	0.0159	0.0005	0.4	0.04	✓
pH	pH Units	366	8.1	6.8	7.5	0.1		7.0-8.5	
Potassium	mg/L	4	1.0	0.8	0.9	0.1			
Silicon	mg/L	4	14.0	12.0	12.8	0.1			
Sodium	mg/L	4	15.0	11.0	12.5	0.1		200	
Sulphate	mg/L	4	17.50	14.10	15.25	0.02		250	
Suspended Solids	mg/L	13	1.1	ND	0.3	0.2			
Total Hardness	mg/L	13	41	29	34	0.029		200	
Total Organic Carbon TOC	mg/L	13	1.3	0.8	1.1	0.1			
Turbidity	NTU	366	4.7*	ND	0.2	0.05		2.5	

*In the period 01/07/2019 – 30/06/2020, one elevated turbidity result was reported by the laboratory. An investigation identified that this result was not representative of water being supplied by the Huia WTP.

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
<i>E. coli</i>	MPN/100mL	366	ND	ND	ND	1	<1		✓

Nutrients									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Ammonia	mg/L	4	ND	ND	ND	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	4	0.007	0.005	0.006	0.005			
Nitrate (as NO ₃)	mg/L	4	0.195	0.080	0.136	0.009	50		✓
Nitrite (as NO ₂)	mg/L	4	0.021	ND	0.005	0.007	0.20		✓
TKN (Total Kjeldahl Nitrogen)	mg/L	4	ND	ND	ND	0.1			
Total Phosphorus	mg/L	4	0.052	0.00	0.018	0.005			

Semi Volatile Organic Compounds									
Organochlorine Pesticides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Hexachlorobenzene	µg/L	4	ND	ND	ND	0.1			

Trace Elements									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Antimony	mg/L	4	ND	ND	ND	0.001	0.02		✓
Arsenic	mg/L	4	0.0002	ND	ND	0.0001	0.01		✓
Barium	mg/L	4	0.0056	0.0046	0.0051	0.0002	0.7		✓
Boron	mg/L	4	0.014	ND	0.006	0.005	1.4		✓
Cadmium	mg/L	4	ND	ND	ND	0.00005	0.004		✓
Chromium	mg/L	4	ND	ND	ND	0.0001	0.05		✓
Copper	mg/L	4	0.0380	0.0023	0.0116	0.0002	2		✓
Lead	mg/L	4	0.0002	ND	ND	0.0001	0.01		✓
Lithium	mg/L	4	0.0005	0.0004	0.0004	0.0001			
Molybdenum	mg/L	4	ND	ND	ND	0.0003	0.07		✓
Nickel	mg/L	4	0.0003	ND	0.0001	0.0001	0.08		✓

Trace Elements cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Selenium	mg/L	4	ND	ND	ND	0.0005	0.01		✓
Zinc	mg/L	4	0.002	ND	0.001	0.001		1.5	

Trihalomethanes									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Bromodichloromethane	mg/L	52	0.0200	0.0018	0.0054	0.0001	0.06		✓
Bromoform	mg/L	52	0.0040	ND	0.0012	0.0001	0.1		✓
Chloroform	mg/L	52	0.0130	ND	0.0027	0.0001	0.4		✓
Dibromochloromethane	mg/L	52	0.0120	ND	0.0062	0.0001	0.15		✓
THM Sum Ratio		52	0.47	0.07	0.15		1		✓

Volatile Organic Compounds									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
1,1,1-trichloroethane	mg/L	4	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	4	ND	ND	ND	0.0001			
1,2,4-trichlorobenzene	mg/L	4	ND	ND	ND	0.0001			
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			
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		✓

Volatile Organic Compounds cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
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	0.02		✓

Halo Acetic Acids (HAAs)									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Bromoacetic Acid	mg/L	4	ND	ND	ND	0.0005			
Bromochloroacetic Acid	mg/L	4	0.0040	0.0021	0.0034	0.0005			
Monochloroacetic Acid	mg/L	4	ND	ND	ND	0.0005	0.02		✓
Dibromoacetic Acid	mg/L	4	0.0035	0.0011	0.0024	0.0005			
Dichloroacetic Acid	mg/L	4	0.0027	ND	0.0017	0.0005	0.05		✓
Trichloroacetic Acid	mg/L	4	0.0014	ND	0.0009	0.0005	0.2		✓
HAA Sum Ratio		4	0.0610	0.0070	0.0375				

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Acid Herbicides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
2,4,5- trichlorophenoxyacetic acid (2,4,5-T)	mg/L	4	ND	ND	ND	0.0001			
2,4-Dichlorophenoxyacetic acid (2,4-BD)	mg/L	4	ND	ND	ND	0.0001			
4-(2,4-dichlorophenoxy) butanoic acid (2,4-DB)	mg/L	4	ND	ND	ND	0.0001			
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	0.002		✓
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 DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
UV absorbance at 254nm	Abs units	12	0.007	ND	0.002	0.002			
Alkalinity (Total) as CaCO ₃	mg/L	4	78	13	61	1			
Aluminium	mg/L	1	ND	ND	ND	0.005		0.1	
Bromate	mg/L	13	ND	ND	ND	0.005	0.01		✓
Bromide	mg/L	13	0.27	0.04	0.18	0.01			
Calcium	mg/L	4	8	7	7	0.01			
Calcium Hardness	mg/L	4	19	17	18	0.025			
Chlorate	mg/L	13	0.22	0.06	0.15	0.01	0.8		✓
Chloride	mg/L	1	62	62	62	0.02		250	
Chlorine Residual	mg/L	122	1.77	0.63	1.15	0.02	5	0.6-1.0	✓

Chemical and Physical cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Chlorite	mg/L	13	ND	ND	ND	0.005	0.8		✓
Colour	Hazen Units	1	ND	ND	ND	5		10	
Conductivity	mS/m	1	39.2	39.2	39.2	0.5			
Cyanide	mg/L	1	ND	ND	ND	0.005	0.6		✓
Fluoride	mg/L	1	0.05	0.05	0.05	0.020	1.5		✓
Iodide	mg/L	1	0.0105	0.0105	0.0105	0.002			
Iron	mg/L	4	0.003	0.002	0.003	0.002		0.2	
Magnesium	mg/L	4	6.9	5.6	6.1	0.001			
Magnesium Hardness	mg/L	4	29	23	25	0.0041			
Manganese	mg/L	4	ND	ND	ND	0.0005	0.4	0.04	✓
pH	pH Units	122	8.3	7.1	7.3	0.1		7.0-8.5	
Potassium	mg/L	1	1.7	1.7	1.7	0.1			
Silicon	mg/L	1	56.0	56.0	56.0	0.1			
Sodium	mg/L	1	64.0	64.0	64.0	0.1		200	
Sulphate	mg/L	1	12.0	12.0	12.0	0.02		250	
Suspended Solids	mg/L	4	ND	ND	ND	0.2			
Total Dissolved Solids	mg/L	4	310	260	278	15		1000	
Total Hardness	mg/L	4	47.00	40.00	43.25	0.029		200	
Total Organic Carbon TOC	mg/L	11	1.1	0.2	0.5	0.1			
Dissolved Organic Carbon	mg/L	11	1.0	0.2	0.4	0.1			
Turbidity	NTU	122	0.3	ND	0.1	0.05		2.5	

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
<i>E. coli</i>	MPN/100mL	122	ND	ND	ND	1	<1		✓

Nutrients									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Ammonia	mg/L	4	ND	ND	ND	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	4	0.056	0.036	0.045	0.005			
Nitrate (as NO ₃)	mg/L	4	3.778	3.273	3.490	0.009	50		✓
Nitrite (as NO ₂)	mg/L	4	ND	ND	ND	0.007	0.20		✓
TKN (Total Kjeldahl Nitrogen)	mg/L	4	ND	ND	ND	0.1			
Total Phosphorus	mg/L	4	0.091	0.037	0.058	0.005			

Plasticizers									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
bis (2-ethylhexyl) adipate	µg/L	1	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	1	ND	ND	ND	2	9		✓

Polycyclic Aromatic Hydrocarbons									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Benzo(a)pyrene	µg/L	1	ND	ND	ND	0.1	0.7		✓

Semi Volatile Organic Compounds									
Organochlorine Pesticides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Aldrin + Dieldrin	µg/L	1	ND	ND	ND	0.01	0.04		✓
Chlordane	µg/L	1	ND	ND	ND	0.01	0.2		✓
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			

Organochlorine Pesticides cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
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	2		✓
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		✓
Terbuthilazine	µg/L	1	ND	ND	ND	0.2	8		✓
Trifluralin	µg/L	1	ND	ND	ND	0.2	30		✓
Organophosphorus Pesticides									
Chlorpyrifos	µg/L	1	ND	ND	ND	0.2	40		✓
Diazinon	µg/L	1	ND	ND	ND	0.1			
Pirymiphos methyl	µg/L	1	ND	ND	ND	0.2	100		✓

Trace Elements									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Antimony	mg/L	1	ND	ND	ND	0.001	0.02		✓
Arsenic	mg/L	4	ND	ND	ND	0.0001	0.01		✓
Barium	mg/L	1	0.019	0.019	0.019	0.0002	0.7		✓
Boron	mg/L	1	0.03	0.03	0.03	0.005	1.4		✓
Cadmium	mg/L	4	ND	ND	ND	0.00005	0.004		✓
Chromium	mg/L	1	0.0015	0.0015	0.0015	0.0001	0.05		✓

Trace Elements cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Copper	mg/L	4	0.0012	0.0008	0.0010	0.0002	2		✓
Lead	mg/L	4	ND	ND	ND	0.0001	0.01		✓
Lithium	mg/L	1	0.0037	0.0037	0.0037	0.0001			
Mercury	mg/L	1	ND	ND	ND	0.00005	0.007		✓
Molybdenum	mg/L	1	ND	ND	ND	0.0003	0.07		✓
Nickel	mg/L	4	0.0003	0.0002	0.0002	0.0001	0.08		✓
Selenium	mg/L	1	ND	ND	ND	0.0005	0.01		✓
Zinc	mg/L	4	0.002	0.002	0.002	0.001		1.5	

Trihalomethanes									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Bromodichloromethane	mg/L	12	ND	ND	ND	0.0001	0.06		✓
Bromoform	mg/L	12	0.0043	ND	0.0014	0.0001	0.1		✓
Chloroform	mg/L	12	ND	ND	ND	0.0001	0.4		✓
Dibromochloromethane	mg/L	12	0.0017	ND	0.0004	0.0001	0.15		✓
THM Sum Ratio		12	0.04	ND	0.02		1		✓

Volatile Organic Compounds									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
1,1,1-trichloroethane	mg/L	12	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	12	ND	ND	ND	0.0001			
1,2,4-trichlorobenzene	mg/L	12	ND	ND	ND	0.0001			
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	✓

Volatile Organic Compounds cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Benzene	mg/L	12	ND	ND	ND	0.0001	0.01		✓
Carbon tetrachloride	mg/L	12	ND	ND	ND	0.0001			
Ethylbenzene	mg/L	12	ND	ND	ND	0.0001	0.3	0.002	✓
Xylene	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	0.02		✓

Halo Acetic Acids (HAAs)									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
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	ND	ND	ND	0.0005	0.02		✓
Dibromoacetic Acid	mg/L	4	0.0019	ND	0.0011	0.0005			
Dichloroacetic Acid	mg/L	4	0.0032	ND	0.0012	0.0005	0.05		✓
Trichloroacetic Acid	mg/L	4	ND	ND	ND	0.0005	0.2		✓
HAA Sum Ratio		4	0.0650	ND	0.0247				

Onehunga WTP Treated Water (Local and Metropolitan)

Acid Herbicides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
2,4,5- trichlorophenoxyacetic acid (2,4,5-T)	mg/L	4	ND	ND	ND	0.0001			
2,4-Dichlorophenoxyacetic acid (2,4-BD)	mg/L	4	ND	ND	ND	0.0001			
4-(2,4-dichlorophenoxy) butanoic acid (2,4-DB)	mg/L	4	ND	ND	ND	0.0001			
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	0.002		✓
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 DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
UV absorbance at 254nm	Abs units	13	0.013	0.007	0.009	0.002			
Alkalinity (Total) as CaCO ₃	mg/L	4	64	53	58	1			
Aluminium	mg/L	52	0.087	0.028	0.034	0.005		0.1	
Bromate	mg/L	4	ND	ND	ND	0.005	0.01		✓
Bromide	mg/L	13	0.076	0.016	0.033	0.01			
Calcium	mg/L	4	11.00	8.00	9.33	0.01			
Calcium Hardness	mg/L	4	28.0	20.0	23.5	0.025			
Chlorate	mg/L	4	0.06	0.04	0.05	0.01	0.8		✓
Chloride	mg/L	13	31.10	17.70	21.86	0.02		250	
Chlorine Residual	mg/L	366	1.65	0.58	1.09	0.02	5	0.6-1.0	✓

Chemical and Physical cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Chlorite	mg/L	4	ND	ND	ND	0.005	0.8		✓
Colour	Hazen Units	1	ND	ND	ND	5		10	
Conductivity	mS/m	13	30.3	21.8	24.8	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.005	0.6		✓
Fluoride (Onehunga zone)	mg/L	13	0.2*	0.1*	0.1*	0.02	1.5		✓
Fluoride (Metropolitan zones)	mg/L	51	0.8	0.1	0.7	0.02	1.5		✓
Iodide	mg/L	1	0.005	0.005	0.005	0.002			
Iron	mg/L	52	0.025	ND	0.001	0.002		0.2	
Magnesium	mg/L	4	9.700	7.000	8.275	0.001			
Magnesium Hardness	mg/L	4	40.000	29.000	34.000	0.0041			
Manganese	mg/L	4	ND	ND	ND	0.0005	0.4	0.04	✓
pH	pH Units	366	8.5	7.5	7.8	0.1		7.0-8.5	
Potassium	mg/L	1	2.9	2.9	2.9	0.1			
Silicon	mg/L	1	33.0	33.0	33.0	0.1			
Sodium	mg/L	1	21.0	21.0	21.0	0.1		200	
Sulphate	mg/L	13	16.40	11.90	13.73	0.02		250	
Suspended Solids	mg/L	4	0	ND	0	0.2			
Total Dissolved Solids	mg/L	4	230.0	180.0	207.5	15.0		1000	
Total Hardness	mg/L	4	68.00	49.00	57.75	0.029		200	
Total Organic Carbon TOC	mg/L	52	1.4	0.4	0.6	0.1			
Turbidity	NTU	366	0.6	ND	0.1	0.05		2.5	

* Naturally occurring fluoride levels only

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
<i>E. coli</i>	MPN/100mL	366	ND	ND	ND	1	<1		✓

Nutrients									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Ammonia	mg/L	4	ND	ND	ND	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	4	0.078	0.044	0.067	0.005			
Nitrate (as NO ₃)	mg/L	4	14.703	12.400	13.330	0.009	50		✓
Nitrite (as NO ₂)	mg/L	4	ND	ND	ND	0.007	0.20		✓
TKN (Total Kjeldahl Nitrogen)	mg/L	4	ND	ND	ND	0.1			
Total Phosphorus	mg/L	4	0.110	0.049	0.084	0.005			

Plasticizers									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
bis (2-ethylhexyl) adipate	µg/L	4	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	4	ND	ND	ND	2	9		✓

Polycyclic Aromatic Hydrocarbons									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Benzo(a)pyrene	µg/L	4	ND	ND	ND	0.1	0.7		✓

Semi Volatile Organic Compounds									
Organochlorine Pesticides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Aldrin + Dieldrin	µg/L	4	ND	ND	ND	0.01	0.04		✓
Chlordane	µg/L	4	ND	ND	ND	0.01	0.2		✓
Lindane	µg/L	4	ND	ND	ND	0.01	2		✓
Heptachlor	µg/L	4	ND	ND	ND	0.01			
Heptachlor epoxide	µg/L	4	ND	ND	ND	0.01			

Organochlorine Pesticides cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
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	2		✓
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		✓
Terbuthilazine	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			
Pirymiphos methyl	µg/L	4	ND	ND	ND	0.2	100		✓

Trace Elements									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Antimony	mg/L	4	ND	ND	ND	0.001	0.02		✓
Arsenic	mg/L	4	0.0003	0.0002	0.0002	0.0001	0.01		✓
Barium	mg/L	1	0.0015	0.0015	0.0015	0.0002	0.7		✓
Boron	mg/L	1	0.052	0.052	0.052	0.005	1.4		✓
Cadmium	mg/L	4	ND	ND	ND	0.00005	0.004		✓

Trace Elements cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Chromium	mg/L	4	0.0011	0.0008	0.0010	0.0001	0.05		✓
Copper	mg/L	4	0.0017	0.0014	0.0015	0.0002	2		✓
Lead	mg/L	4	0.0001	ND	ND	0.0001	0.01		✓
Lithium	mg/L	1	0.0003	0.0003	0.0003	0.0001			
Mercury	mg/L	4	ND	ND	ND	0.00005	0.007		✓
Molybdenum	mg/L	1	0.0009	0.0009	0.0009	0.0003	0.07		✓
Nickel	mg/L	4	0.0001	ND	ND	0.0001	0.08		✓
Selenium	mg/L	1	0.0005	0.0005	0.0005	0.0005	0.01		✓
Zinc	mg/L	4	0.002	ND	0.001	0.001		1.5	

Trihalomethanes									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Bromodichloromethane	mg/L	13	ND	ND	ND	0.0001	0.06		✓
Bromoform	mg/L	13	0.0020	ND	0.0005	0.0001	0.1		✓
Chloroform	mg/L	13	ND	ND	ND	0.0001	0.4		✓
Dibromochloromethane	mg/L	13	0.0019	ND	0.0007	0.0001	0.15		✓
THM Sum Ratio		13	0.03	ND	0.01		1		✓

Volatile Organic Compounds									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
1,1,1-trichloroethane	mg/L	13	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	13	ND	ND	ND	0.0001			
1,2,4-trichlorobenzene	mg/L	13	ND	ND	ND	0.0001			
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 DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Benzene	mg/L	13	ND	ND	ND	0.0001	0.01		✓
Carbon tetrachloride	mg/L	13	ND	ND	ND	0.0001			
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	0.02		✓

Halo Acetic Acids (HAAs)									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
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	ND	ND	ND	0.0005	0.02		✓
Dibromoacetic Acid	mg/L	4	0.0016	ND	0.0007	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				

Snells/Algies WTP Treated Water

Chemical and Physical									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
UV absorbance at 254nm	Abs units	1	0.010	0.0108	0.010	0.002			
Alkalinity (Total) as CaCO ₃	mg/L	4	200	190	198	1			
Aluminium	mg/L	1	ND	ND	ND	0.005		0.1	
Bromate	mg/L	4	ND	ND	ND	0.005	0.01		✓
Bromide	mg/L	4	0.14	0.03	0.06	0.01			
Calcium	mg/L	4	3.7	3.3	3.6	0.01			
Calcium Hardness	mg/L	4	9	8	9	0.025			
Chlorate	mg/L	4	ND	ND	ND	0.01	0.8		✓
Chloride	mg/L	1	42	42	42	0.02		250	
Chlorine Residual	mg/L	122	1.93	0.84	1.45	0.02	5	0.6-1.0	✓
Chlorite	mg/L	4	ND	ND	ND	0.005	0.8		✓
Colour	Hazen Units	1	ND	ND	ND	5		10	
Conductivity	mS/m	1	50.9	50.9	50.9	0.5			
Cyanide	mg/L	1	ND	ND	ND	0.005	0.6		✓
Fluoride	mg/L	1	0.15	0.15	0.15	0.02	1.5		✓
Iodide	mg/L	1	0.006	0.006	0.006	0.002			
Iron	mg/L	13	0.011	0.003	0.006	0.002		0.2	
Magnesium	mg/L	4	0.3	0.3	0.3	0.001			
Magnesium Hardness	mg/L	4	1.4	1.1	1.3	0.0041			
Manganese	mg/L	13	0.005	0.001	0.004	0.0005	0.4	0.04	✓
pH	pH Units	122	8.4	7.2	8.3	0.1		7.0-8.5	
Potassium	mg/L	1	0.3	0.3	0.3	0.1			
Silicon	mg/L	1	41	41	41	0.1			
Sodium	mg/L	1	120	120	120	0.1		200	
Sulphate	mg/L	1	5.2	5.2	5.2	0.02		250	

Chemical and Physical cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Suspended Solids	mg/L	1	ND	ND	ND	0.2			
Total Dissolved Solids	mg/L	1	320	320	320	15		1000	
Total Hardness	mg/L	4	11.0	9.3	10.3	0.029		200	
Total Organic Carbon TOC	mg/L	1	0.6	0.6	0.6	0.1			
Turbidity	NTU	122	0.4	ND	0.1	0.05		2.5	

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
<i>E. coli</i>	MPN/100mL	122	ND	ND	ND	1	<1		✓

Nutrients									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Ammonia	mg/L	1	ND	ND	ND	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	1	0.09	0.09	0.09	0.005			
Nitrate (as NO ₃)	mg/L	1	0.071	0.071	0.071	0.009	50		✓
Nitrite (as NO ₂)	mg/L	1	ND	ND	ND	0.007	0.20		✓
TKN (Total Kjeldahl Nitrogen)	mg/L	1	ND	ND	ND	0.1			
Total Phosphorus	mg/L	1	0.15	0.15	0.15	0.005			

Plasticizers									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
bis (2-ethylhexyl) adipate	µg/L	1	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	1	ND	ND	ND	2	9		✓

Polycyclic Aromatic Hydrocarbons									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Benzo(a)pyrene	µg/L	1	ND	ND	ND	0.1	0.7		✓

Semi Volatile Organic Compounds									
Organochlorine Pesticides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Aldrin + Dieldrin	µg/L	1	ND	ND	ND	0.01	0.04		✓
gamma-Chlordan	µg/L	1	ND	ND	ND	0.01			
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	2		✓
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		✓
Terbuthilazine	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 DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
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 DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Antimony	mg/L	1	ND	ND	ND	0.001	0.02		✓
Arsenic	mg/L	13	ND	ND	ND	0.0001	0.01		✓
Barium	mg/L	1	0.0002	0.0002	0.0002	0.0002	0.7		✓
Boron	mg/L	1	0.160	0.160	0.160	0.005	1.4		✓
Cadmium	mg/L	1	ND	ND	ND	0.00005	0.004		✓
Chromium	mg/L	1	0.0007	0.0007	0.0007	0.0001	0.05		✓
Copper	mg/L	1	0.0014	0.0014	0.0014	0.0002	2		✓
Lead	mg/L	1	ND	ND	ND	0.0001	0.01		✓
Lithium	mg/L	1	0.022	0.022	0.022	0.0001			
Mercury	mg/L	1	ND	ND	ND	0.00005	0.007		✓
Molybdenum	mg/L	1	ND	ND	ND	0.0003	0.07		✓
Nickel	mg/L	1	ND	ND	ND	0.0001	0.08		✓
Selenium	mg/L	1	ND	ND	ND	0.0005	0.01		✓
Zinc	mg/L	1	ND	ND	ND	0.001		1.5	

Trihalomethanes									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Bromodichloromethane	mg/L	13	0.0024	ND	0.0004	0.0001	0.06		✓
Bromoform	mg/L	13	0.0017	ND	0.0004	0.0001	0.1		✓

Trihalomethanes cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Chloroform	mg/L	13	0.0009	ND	0.0001	0.0001	0.4		✓
Dibromochloromethane	mg/L	13	0.0032	ND	0.0006	0.0001	0.15		✓
THM Ratio		13	0.08	ND	0.02		1		✓

Volatile Organic Compounds									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
1,1,1-trichloroethane	mg/L	1	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	1	ND	ND	ND	0.0001			
1,2,4-trichlorobenzene	mg/L	1	ND	ND	ND	0.0001			
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			
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	0.02		✓

Victoria Avenue WTP Treated Water

Chemical and Physical									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Alkalinity (Total) as CaCO ₃	mg/L	4	130	120	125	1			
Aluminium	mg/L	1	ND	ND	ND	0.005		0.1	
Bromate	mg/L	1	ND	ND	ND	0.005	0.01		✓
Bromide	mg/L	1	0.03	0.03	0.03	0.01			
Calcium	mg/L	13	35.0	28.0	30.9	0.01			
Calcium Hardness	mg/L	13	88	69	77	0.025			
Chlorate	mg/L	1	0.01	0.01	0.01	0.01	0.8		✓
Chloride	mg/L	1	33.00	33.00	33.00	0.02		250	
Chlorine Residual	mg/L	122	1.40	0.39	0.84	0.02	5	0.6-1.0	✓
Chlorite	mg/L	1	ND	ND	ND	0.005	0.8		✓
Colour	Hazen Units	1	ND	ND	ND	5		10	
Conductivity	mS/m	1	35.4	35.4	35.4	0.5			
Cyanide	mg/L	1	ND	ND	ND	0.005	0.6		✓
Fluoride	mg/L	1	0.06	0.06	0.06	0.02	1.5		✓
Iodide	mg/L	1	0.004	0.004	0.004	0.002			
Iron	mg/L	13	0.004	ND	0.001	0.002		0.2	
Magnesium	mg/L	13	11.000	8.800	9.400	0.001			
Magnesium Hardness	mg/L	13	45.0	36.0	38.7	0.0041			
Manganese	mg/L	13	0.0029	ND	0.0008	0.0005	0.4	0.04	✓
pH	pH Units	122	8.1	7.6	7.9	0.1		7.0-8.5	
Potassium	mg/L	1	3.7	3.7	3.7	0.1			
Silicon	mg/L	1	46.0	46.0	46.0	0.1			
Sodium	mg/L	1	21.0	21.0	21.0	0.1		200	
Sulphate	mg/L	1	5.1	5.1	5.1	0.02		250	
Suspended Solids	mg/L	1	0.4	0.4	0.4	0.2			

Chemical and Physical cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Total Dissolved Solids	mg/L	1	240	240	240	15		1000	
Total Hardness	mg/L	13	130	100	115	0.029		200	
Turbidity	NTU	122	0.3	ND	0.1	0.05		2.5	

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
<i>E. coli</i>	MPN/100mL	122	ND	ND	ND	1	<1		✓

Nutrients									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Ammonia	mg/L	1	ND	ND	ND	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	1	0.056	0.056	0.056	0.005			
Nitrate (as NO ₃)	mg/L	1	0.111	0.111	0.111	0.009	50		✓
Nitrite (as NO ₂)	mg/L	1	ND	ND	ND	0.007	0.20		✓
TKN (Total Kjeldahl Nitrogen)	mg/L	1	0.1400	0.1400	0.1400	0.1			
Total Phosphorus	mg/L	1	0.057	0.057	0.057	0.005			

Plasticizers									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
bis (2-ethylhexyl) adipate	µg/L	1	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	1	ND	ND	ND	2	9		✓

Polycyclic Aromatic Hydrocarbons									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Benzo(a)pyrene	µg/L	1	ND	ND	ND	0.1	0.7		✓

Semi Volatile Organic Compounds									
Organochlorine Pesticides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Aldrin + Dieldrin	µg/L	1	ND	ND	ND	0.01	0.04		✓
gamma-Chlordan	µg/L	1	ND	ND	ND	0.01			
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	2		✓
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		✓
Terbuthilazine	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 DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Chlorpyrifos	µg/L	1	ND	ND	ND	0.2	40		✓
Diazinon	µg/L	1	ND	ND	ND	0.1			
Pyrimiphos methyl	µg/L	1	ND	ND	ND	0.2	100		✓

Trace Elements									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Antimony	mg/L	1	ND	ND	ND	0.001	0.02		✓
Arsenic	mg/L	13	0.0056	0.0044	0.0048	0.0001	0.01		✓
Barium	mg/L	1	0.0008	0.0008	0.0008	0.0002	0.7		✓
Boron	mg/L	1	0.018	0.018	0.018	0.005	1.4		✓
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		✓
Lead	mg/L	1	ND	ND	ND	0.0001	0.01		✓
Lithium	mg/L	1	0.0092	0.0092	0.0092	0.0001			
Mercury	mg/L	1	ND	ND	ND	0.00005	0.007		✓
Molybdenum	mg/L	1	ND	ND	ND	0.0003	0.07		✓
Nickel	mg/L	1	ND	ND	ND	0.0001	0.08		✓
Selenium	mg/L	1	ND	ND	ND	0.0005	0.01		✓
Zinc	mg/L	1	0.001	0.001	0.001	0.001		1.5	

Trihalomethanes									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Bromodichloromethane	mg/L	13	0.0038	ND	0.0006	0.0001	0.06		✓
Bromoform	mg/L	13	0.0042	ND	0.0017	0.0001	0.1		✓

Trihalomethanes cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Chloroform	mg/L	13	0.0009	ND	0.0001	0.0001	0.4		✓
Dibromochloromethane	mg/L	13	0.0067	ND	0.0019	0.0001	0.15		✓
THM Ratio		13	0.14	ND	0.04		1		✓

Volatile Organic Compounds									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
1,1,1-trichloroethane	mg/L	1	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	1	ND	ND	ND	0.0001			
1,2,4-trichlorobenzene	mg/L	1	ND	ND	ND	0.0001			
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			
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	0.02		✓

Waikato WTP Treated Water

Acid Herbicides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
1080 (Sodium fluoroacetate)	mg/L	2	ND	ND	ND	0.0001	0.0035		✓
2,4,5- trichlorophenoxyacetic acid (2,4,5-T)	mg/L	13	ND	ND	ND	0.0001			
2,4-Dichlorophenoxyacetic acid (2,4-BD)	mg/L	13	ND	ND	ND	0.0001			
4-(2,4-dichlorophenoxy) butanoic acid (2,4-DB)	mg/L	13	ND	ND	ND	0.0001			
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 DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
UV absorbance at 254nm	Abs units	52	0.360	0.009	0.024	0.002			
Alkalinity (Total) as CaCO ₃	mg/L	52	58	30	47	1			
Aluminium	mg/L	52	0.052	0.026	0.037	0.005		0.1	
Bromate	mg/L	13	ND	ND	ND	0.005	0.01		✓
Bromide	mg/L	13	0.03	0.01	0.02	0.01			
Calcium	mg/L	13	20.0	12.0	16.2	0.01			
Calcium Hardness	mg/L	13	50	31	40.5	0.025			
Chlorate	mg/L	13	0.22	0.08	0.03	0.01	0.8		✓
Chloride	mg/L	13	20.30	16.60	18.15	0.02		250	

Chemical and Physical cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Chlorine Residual	mg/L	366	1.95	0.88	1.39	0.02	5	0.6-1.0	✓
Chlorite	mg/L	13	ND	ND	ND	0.005	0.8		✓
Colour	Hazen Units	4	ND	ND	ND	5		10	
Conductivity	mS/m	13	24.7	21.4	22.2	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.005	0.6		✓
Fluoride	mg/L	52	0.86	0.11	0.66	0.02	1.5		✓
Iodide	mg/L	4	0.002	ND	0.001	0.002			
Iron	mg/L	52	0.051	0.019	0.029	0.002		0.2	
Magnesium	mg/L	13	3.1	2.4	2.6	0.001			
Magnesium Hardness	mg/L	13	13.000	10.000	10.907	0.0041			
Manganese	mg/L	52	0.0270	0.0016	0.0054	0.0005	0.4	0.04	✓
pH	pH Units	366	8.4	7.1	7.7	0.1		7.0-8.5	
Potassium	mg/L	4	3.3	2.6	2.8	0.1			
Silicon	mg/L	4	37.0	28.0	31.3	0.1			
Sodium	mg/L	4	20.0	17.0	18.3	0.1		200	
Sulphate	mg/L	13	31.00	20.60	24.40	0.02		250	
Suspended Solids	mg/L	12	2.0	ND	0.7	0.2			
Total Dissolved Solids	mg/L	13	210	130	157			1000	
Total Hardness	mg/L	13	63.0	41.0	51.5	0.029		200	
Total Organic Carbon TOC	mg/L	13	1.9	0.6	1.2	0.1			
Turbidity	NTU	366	0.6	0.1	0.2	0.05		2.5	

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Confirmed Cryptosporidium per 100L	cysts/100 L	10	ND	ND	ND	1	<1		✓
Confirmed Giardia per 100L	cysts/100 L	10	ND	ND	ND	1	<1		✓

Microbiology cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
<i>E. coli</i>	MPN/100mL	366	ND	ND	ND	1	<1		✓

Nutrients									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Ammonia	mg/L N	4	ND	ND	ND	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	13	0.062	0.022	0.040	0.005			
Nitrate	mg/L NO ₃	13	4.871	0.173	0.459	2.035	50		✓
Nitrite	mg/L NO ₂	13	0.036	ND	0.003	0.007	0.20		✓
TKN (Total Kjeldahl Nitrogen)	mg/L N	4	ND	ND	ND	0.1			
Total Phosphorus	mg/L	13	0.085	0.006	0.017	0.005			

Plasticizers									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
bis (2-ethylhexyl) adipate	µg/L	13	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	13	ND	ND	ND	2	9		✓

Polycyclic Aromatic Hydrocarbons									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Benzo(a)pyrene	µg/L	13	ND	ND	ND	0.1	0.7		✓

Semi Volatile Organic Compounds									
Organochlorine Pesticides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Aldrin + Dieldrin	µg/L	13	ND	ND	ND	0.01	0.04		✓
Chlordane	µg/L	13	ND	ND	ND	0.01	0.2		✓
Lindane	µg/L	13	ND	ND	ND	0.01	2		✓
Heptachlor	µg/L	13	ND	ND	ND	0.01			
Heptachlor epoxide	µg/L	13	ND	ND	ND	0.01			
Hexachlorobenzene	µg/L	13	ND	ND	ND	0.1			
Methoxychlor	µg/L	13	ND	ND	ND	0.2	20		✓
Permethrin (cis + trans)	µg/L	13	ND	ND	ND	0.2			
DDT + isomers	µg/L	13	ND	ND	ND	0.2	1		✓
Procymidone	µg/L	13	ND	ND	ND	0.2	700		✓
Organonitrogen Herbicides									
Alachlor	µg/L	13	ND	ND	ND	0.2	20		✓
Atrazine	µg/L	13	ND	ND	ND	0.1	2		✓
Metolachlor	µg/L	13	ND	ND	ND	0.1	10		✓
Molinate	µg/L	13	ND	ND	ND	0.1	7		✓
Pendimethalin	µg/L	13	ND	ND	ND	0.2	20		✓
Propanil	µg/L	13	ND	ND	ND	0.1			
Simazine	µg/L	13	ND	ND	ND	0.1	2		✓
Terbuthilazine	µg/L	13	ND	ND	ND	0.2	8		✓
Trifluralin	µg/L	13	ND	ND	ND	0.2	30		✓
Organophosphorus Pesticides									
Chlorpyrifos	µg/L	13	ND	ND	ND	0.2	40		✓
Diazinon	µg/L	13	ND	ND	ND	0.1			
Pyrimiphos methyl	µg/L	13	ND	ND	ND	0.2	100		✓

Trace Elements									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Antimony	mg/L	4	ND	ND	ND	0.001	0.02		✓
Arsenic	mg/L	13	0.0030	0.0004	0.0010	0.0001	0.01		✓
Barium	mg/L	13	0.0210	0.0140	0.0180	0.0002	0.7		✓
Boron	mg/L	13	0.220	0.120	0.169	0.005	1.4		✓
Cadmium	mg/L	13	ND	ND	ND	0.00005	0.004		✓
Chromium	mg/L	13	0.0009	ND	0.0003	0.0001	0.05		✓
Copper	mg/L	13	0.0013	0.0003	0.0006	0.0002	2		✓
Lead	mg/L	4	ND	ND	ND	0.0001	0.01		✓
Lithium	mg/L	4	0.0690	0.0410	0.0555	0.0001			
Mercury	mg/L	52	0.00028	ND	0.00001	0.00005	0.007		✓
Molybdenum	mg/L	4	0.0004	ND	0.0002	0.0003	0.07		✓
Nickel	mg/L	4	0.0002	ND	0.0001	0.0001	0.08		✓
Selenium	mg/L	4	ND	ND	ND	0.0005	0.01		✓
Zinc	mg/L	4	0.004	ND	0.002	0.001		1.5	

Trihalomethanes									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Bromodichloromethane	mg/L	52	0.0050	ND	0.0027	0.0001	0.06		✓
Bromoform	mg/L	52	0.0011	ND	0.0001	0.0001	0.1		✓
Chloroform	mg/L	52	0.0057	ND	0.0017	0.0001	0.4		✓
Dibromochloromethane	mg/L	52	0.0043	ND	0.0024	0.0001	0.15		✓
THM Sum Ratio		52	0.12	ND	0.07		1		✓

Volatile Organic Compounds									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
1,1,1-trichloroethane	mg/L	13	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	13	ND	ND	ND	0.0001			
1,2,4-trichlorobenzene	mg/L	13	ND	ND	ND	0.0001			
1,2-dichlorobenzene	mg/L	13	ND	ND	ND	0.0001	1.5	0.001	✓
1,2-dichloroethane	mg/L	13	ND	ND	ND	0.0001	0.03		✓
1,4-dichlorobenzene	mg/L	13	ND	ND	ND	0.0001	0.4	0.0003	✓
Benzene	mg/L	13	ND	ND	ND	0.0001	0.01		✓
Carbon tetrachloride	mg/L	13	ND	ND	ND	0.0001			
Ethylbenzene	mg/L	13	ND	ND	ND	0.0001	0.3	0.002	✓
Xylenes (total)	mg/L	13	ND	ND	ND	0.0001	0.6	0.02	✓
Styrene	mg/L	13	ND	ND	ND	0.0001	0.03	0.004	✓
Tetrachloroethene	mg/L	13	ND	ND	ND	0.0001	0.05		✓
Toluene	mg/L	13	ND	ND	ND	0.0001	0.8	0.03	✓
1,2-dichloroethene (cis + trans)	mg/L	13	ND	ND	ND	0.0001	0.06		✓

Halo Acetic Acids (HAAs)									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Bromoacetic Acid	mg/L	4	ND	ND	ND	0.0005			
Bromochloroacetic Acid	mg/L	4	0.0041	0.0009	0.0020	0.0005			
Monochloroacetic Acid	mg/L	4	ND	ND	ND	0.0005	0.02		✓
Dibromoacetic Acid	mg/L	4	0.0015	ND	0.0010	0.0005			
Dichloroacetic Acid	mg/L	4	0.0120	ND	0.0039	0.0005	0.05		✓
Trichloroacetic Acid	mg/L	4	0.0100	ND	0.0027	0.0005	0.2		✓
HAA Sum Ratio		4	0.2900	ND	0.0907				

Waitakere WTP Treated Water

Acid Herbicides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
2,4,5- trichlorophenoxyacetic acid (2,4,5-T)	mg/L	3	ND	ND	ND	0.0001			
2,4-Dichlorophenoxyacetic acid (2,4-BD)	mg/L	3	ND	ND	ND	0.0001			
4-(2,4-dichlorophenoxy) butanoic acid (2,4-DB)	mg/L	3	ND	ND	ND	0.0001			
Bentazone	mg/L	3	ND	ND	ND	0.0001			
Dichlorprop	mg/L	3	ND	ND	ND	0.0001	0.1		✓
MCPA	mg/L	3	ND	ND	ND	0.0001	0.002		✓
Mecoprop	mg/L	3	ND	ND	ND	0.0001	0.01		✓
Picloram	mg/L	3	ND	ND	ND	0.0001	0.2		✓
Triclopyr	mg/L	3	ND	ND	ND	0.0001	0.1		✓

Chemical and Physical									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
UV absorbance at 254nm	Abs units	44	0.042	0.011	0.016	0.002			
Alkalinity (Total) as CaCO ₃	mg/L	44	36	10	16	1			
Aluminium	mg/L	44	0.031	0.016	0.022	0.005		0.1	
Bromate	mg/L	3	ND	ND	ND	0.005	0.01		✓
Bromide	mg/L	3	0.02	0.02	0.02	0.01			
Calcium	mg/L	13	11.0	8.1	9.1	0.01			
Calcium Hardness	mg/L	13	28	20	23	0.025			
Chlorate	mg/L	3	ND	ND	ND	0.01	0.8		✓
Chloride	mg/L	3	26.50	23.50	24.83	0.02		250	
Chlorine Residual	mg/L	297*	1.33	0.56	1.03	0.02	5	0.6-1.0	✓

Chemical and Physical cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Chlorite	mg/L	3	ND	ND	ND	0.005	0.8		✓
Colour	Hazen Units	11	ND	ND	ND	5		10	
Conductivity	mS/m	11	17.2	14.3	16.1	0.5			
Cyanide	mg/L	3	ND	ND	ND	0.005	0.6		✓
Fluoride	mg/L	44*	0.76	0.60	0.69	0.02	1.5		✓
Iodide	mg/L	3	0.004	0.003	0.004	0.002			
Iron	mg/L	44	0.046	0.008	0.016	0.002		0.2	
Magnesium	mg/L	13	3.2	2.0	2.6	0.001			
Magnesium Hardness	mg/L	13	13	8	10	0.0041			
Manganese	mg/L	44	0.0290	0.0020	0.0079	0.0005	0.4	0.04	✓
pH	pH Units	297*	8.1	7.2	7.6	0.1		7.0-8.5	
Potassium	mg/L	3	1.1	0.9	0.9	0.1			
Silicon	mg/L	3	18.0	10.0	13.7	0.1			
Sodium	mg/L	3	16.0	12.0	13.7	0.1		200	
Sulphate	mg/L	3	16.90	15.10	15.97	0.02		250	
Suspended Solids	mg/L	10	0.3	ND	0.1	0.2			
Total Hardness	mg/L	13	40	30	34	0.029		200	
Total Organic Carbon TOC	mg/L	11	1.5	0.8	1.1	0.1			
Turbidity	NTU	297*	1.6	ND	0.2	0.05		2.5	

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
<i>E. coli</i>	MPN/100mL	297*	ND	ND	ND	1	<1		✓

*The Waitakere WTP was shut down for planned maintenance activities on 8 July 2019 and was back in service on 16 September 2019. Laboratory sampling was not undertaken while the plant was shut down, including daily sampling for *E. coli*, chlorine residual, pH, and turbidity; and weekly sampling for fluoride.

Nutrients									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Ammonia	mg/L	3	ND	ND	ND	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	3	0.005	0.003	0.004	0.005			
Nitrate (as NO ₃)	mg/L	3	0.062	0.021	0.044	0.009	50		✓
Nitrite (as NO ₂)	mg/L	3	ND	ND	ND	0.007	0.20		✓
TKN (Total Kjeldahl Nitrogen)	mg/L	3	ND	ND	ND	0.1			
Total Phosphorus	mg/L	3	0.008	ND	0.005	0.005			

Plasticizers									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
bis (2-ethylhexyl) adipate	µg/L	3	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	3	ND	ND	ND	2	9		✓

Polycyclic Aromatic Hydrocarbons									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Benzo(a)pyrene	µg/L	3	ND	ND	ND	0	0.7		✓

Semi Volatile Organic Compounds									
Organochlorine Pesticides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Aldrin + Dieldrin	µg/L	3	ND	ND	ND	0.01	0.04		✓
Chlordane	µg/L	3	ND	ND	ND	0.01	0.2		✓
Lindane	µg/L	3	ND	ND	ND	0.01	2		✓
Heptachlor	µg/L	3	ND	ND	ND	0.01			
Heptachlor epoxide	µg/L	3	ND	ND	ND	0.01			

Organochlorine Pesticides cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Hexachlorobenzene	µg/L	3	ND	ND	ND	0.1			
Methoxychlor	µg/L	3	ND	ND	ND	0.2	20		✓
Permethrin (cis + trans)	µg/L	3	ND	ND	ND	0.2			
DDT + isomers	µg/L	3	ND	ND	ND	0.2	1		✓
Procymidone	µg/L	3	ND	ND	ND	0.2	700		✓
Organonitrogen Herbicides									
Alachlor	µg/L	3	ND	ND	ND	0.2	20		✓
Atrazine	µg/L	3	ND	ND	ND	0.1	2		✓
Metolachlor	µg/L	3	ND	ND	ND	0.1	10		✓
Molinate	µg/L	3	ND	ND	ND	0.1	7		✓
Pendimethalin	µg/L	3	ND	ND	ND	0.2	20		✓
Propanil	µg/L	3	ND	ND	ND	0.1			
Simazine	µg/L	3	ND	ND	ND	0.1	2		✓
Terbuthilazine	µg/L	3	ND	ND	ND	0.2	8		✓
Trifluralin	µg/L	3	ND	ND	ND	0.2	30		✓
Organophosphorus Pesticides									
Chlorpyrifos	µg/L	3	ND	ND	ND	0.2	40		✓
Diazinon	µg/L	3	ND	ND	ND	0.1			
Pirymiphos methyl	µg/L	3	ND	ND	ND	0.2	100		✓

Trace Elements									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Antimony	mg/L	3	ND	ND	ND	0.001	0.02		✓
Arsenic	mg/L	3	ND	ND	ND	0.0001	0.01		✓
Barium	mg/L	3	0.0068	0.0064	0.0065	0.0002	0.7		✓
Boron	mg/L	3	0.018	ND	0.006	0.005	1.4		✓
Cadmium	mg/L	3	ND	ND	ND	0.00005	0.004		✓

Trace Elements cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Chromium	mg/L	3	ND	ND	ND	0.0001	0.05		✓
Copper	mg/L	3	0.0007	0.0002	0.0004	0.0002	2		✓
Lead	mg/L	3	ND	ND	ND	0.0001	0.01		✓
Lithium	mg/L	3	0.0039	0.0005	0.0018	0.0001			
Mercury	mg/L	3	ND	ND	ND	0.00005	0.007		✓
Molybdenum	mg/L	3	ND	ND	ND	0.0003	0.07		✓
Nickel	mg/L	3	ND	ND	ND	0.0001	0.08		✓
Selenium	mg/L	3	ND	ND	ND	0.0005	0.01		✓
Zinc	mg/L	3	0.005	ND	0.002	0.001		1.5	

Trihalomethanes									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Bromodichloromethane	mg/L	44	0.0180	0.0030	0.0105	0.0001	0.06		✓
Bromoform	mg/L	44	0.0051	0.0010	0.0027	0.0001	0.1		✓
Chloroform	mg/L	44	0.0130	0.0008	0.0054	0.0001	0.4		✓
Dibromochloromethane	mg/L	44	0.0190	0.0060	0.0112	0.0001	0.15		✓
THM Sum Ratio		44	0.44	0.11	0.29		1		✓

Volatile Organic Compounds									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
1,1,1-trichloroethane	mg/L	3	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	3	ND	ND	ND	0.0001			
1,2,4-trichlorobenzene	mg/L	3	ND	ND	ND	0.0001			
1,2-dichlorobenzene	mg/L	3	ND	ND	ND	0.0001	1.5	0.001	✓
1,2-dichloroethane	mg/L	3	ND	ND	ND	0.0001	0.03		✓
1,4-dichlorobenzene	mg/L	3	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 DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Benzene	mg/L	3	ND	ND	ND	0.0001	0.01		✓
Carbon tetrachloride	mg/L	3	ND	ND	ND	0.0001			
Ethylbenzene	mg/L	3	ND	ND	ND	0.0001	0.3	0.002	✓
Xylenes (total)	mg/L	3	ND	ND	ND	0.0001	0.6	0.02	✓
Styrene	mg/L	3	ND	ND	ND	0.0001	0.03	0.03	✓
Tetrachloroethene	mg/L	3	ND	ND	ND	0.0001	0.05		✓
Toluene	mg/L	3	ND	ND	ND	0.0001	0.8	0.03	✓
1,2-dichloroethene (cis + trans)	mg/L	3	ND	ND	ND	0.0001	0.06		✓
Trichloroethene	mg/L	3	ND	ND	ND	0.0001	0.02		✓

Halo Acetic Acids (HAAs)									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Bromoacetic Acid	mg/L	3	ND	ND	ND	0.0005			
Bromochloroacetic Acid	mg/L	3	0.0049	0.0034	0.0042	0.0005			
Monochloroacetic Acid	mg/L	3	ND	ND	ND	0.0005	0.02		✓
Dibromoacetic Acid	mg/L	3	0.0034	0.0016	0.0028	0.0005			
Dichloroacetic Acid	mg/L	3	0.0032	0.0019	0.0027	0.0005	0.05		✓
Trichloroacetic Acid	mg/L	3	0.0027	ND	0.0015	0.0005	0.2		✓
HAA Sum Ratio		3	0.0780	0.0380	0.0623				

Waiuku Road WTP Treated Water

Chemical and Physical									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
UV absorbance at 254nm	Abs units	1	0.006	0.006	0.006	0.002			
Alkalinity (Total) as CaCO ₃	mg/L	4	120	120	120	1			
Aluminium	mg/L	1	ND	ND	ND	0.005		0.1	
Bromate	mg/L	1	ND	ND	ND	0.005	0.01		✓
Bromide	mg/L	1	0.02	0.02	0.02	0.01			
Calcium	mg/L	14	31.00	25.00	27.86	0.01			
Calcium Hardness	mg/L	14	74.00	61.00	68.71	0.025			
Chlorate	mg/L	1	0.018	0.018	0.018	0.01	0.8		✓
Chloride	mg/L	1	33.00	33.00	33.00	0.02		250	
Chlorine Residual	mg/L	122	1.44	0.49	1.01	0.02	5	0.6-1.0	✓
Chlorite	mg/L	1	ND	ND	ND	0.005	0.8		✓
Colour	Hazen Units	1	ND	ND	ND	5		10	
Conductivity	mS/m	1	34.1	34.1	34.1	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	0.002			
Iron	mg/L	14	0.023	ND	0.002	0.002		0.2	
Magnesium	mg/L	14	7.8	6.5	7.1	0.001			
Magnesium Hardness	mg/L	14	32	25	29	0.0041			
Manganese	mg/L	14	0.033	ND	0.003	0.0005	0.4	0.04	✓
pH	pH Units	122	8.1	7.6	7.9	0.1		7.0-8.5	
Potassium	mg/L	1	4.8	4.8	4.8	0.1			
Silicon	mg/L	1	35.0	35.0	35.0	0.1			
Sodium	mg/L	1	25.0	25.0	25.0	0.1		200	
Sulphate	mg/L	1	4.90	4.90	4.90	0.02		250	

Chemical and Physical cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Suspended Solids	mg/L	1	0.3	0.3	0.3	0.2			
Total Dissolved Solids	mg/L	1	190	190	190	15		1000	
Total Hardness	mg/L	14	110	87	97	0.029		200	
Turbidity	NTU	122	0.3	ND	0.1	0.05		2.5	

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
<i>E. coli</i>	MPN/100mL	122	ND	ND	ND	1	<1		✓

Nutrients									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Ammonia	mg/L	1	0.012	0.012	0.012	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	1	0.059	0.059	0.059	0.005			
Nitrate (as NO ₃)	mg/L	1	0.080	0.080	0.080	0.009	50		✓
Nitrite (as NO ₂)	mg/L	1	ND	ND	ND	0.007	0.20		✓
TKN (Total Kjeldahl Nitrogen)	mg/L	1	1.9	1.900	1.9	0.1			
Total Phosphorus	mg/L	1	0.067	0.067	0.067	0.005			

Plasticizers									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
bis (2-ethylhexyl) adipate	µg/L	1	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	1	ND	ND	ND	2	9		✓

Polycyclic Aromatic Hydrocarbons									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Benzo(a)pyrene	µg/L	1	ND	ND	ND	0.1	0.7		✓

Semi Volatile Organic Compounds									
Organochlorine Pesticides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
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	2		✓
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		✓
Terbuthilazine	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 DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
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 DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Antimony	mg/L	1	ND	ND	ND	0.001	0.02		✓
Arsenic	mg/L	14	0.0040	0.0034	0.0036	0.0001	0.01		✓
Barium	mg/L	1	ND	ND	ND	0.0002	0.7		✓
Boron	mg/L	1	0.019	0.019	0.019	0.005	1.4		✓
Cadmium	mg/L	1	ND	ND	ND	0.00005	0.004		✓
Chromium	mg/L	1	ND	ND	ND	0.0001	0.05		✓
Copper	mg/L	1	0.0007	0.0007	0.0007	0.0002	2		✓
Lead	mg/L	1	ND	ND	ND	0.0001	0.01		✓
Lithium	mg/L	1	0.0140	0.0140	0.0140	0.0001			
Mercury	mg/L	1	ND	ND	ND	0.00005	0.007		✓
Molybdenum	mg/L	1	ND	ND	ND	0.0003	0.07		✓
Nickel	mg/L	1	ND	ND	ND	0.0001	0.08		✓
Selenium	mg/L	1	ND	ND	ND	0.0005	0.01		✓
Zinc	mg/L	1	0.002	0.002	0.002	0.001		1.5	

Trihalomethanes									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Bromodichloromethane	mg/L	14	0.0041	ND	0.0019	0.0001	0.06		✓
Bromoform	mg/L	14	0.0036	0.0009	0.0021	0.0001	0.1		✓
Chloroform	mg/L	14	0.0013	ND	0.0004	0.0001	0.4		✓

Trihalomethanes cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Dibromochloromethane	mg/L	14	0.0061	0.0021	0.0035	0.0001	0.15		✓
THM Sum Ratio		14	0.15	0.03	0.08		1		✓

Volatile Organic Compounds									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
1,1,1-trichloroethane	mg/L	1	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	1	ND	ND	ND	0.0001			
1,2,4-trichlorobenzene	mg/L	1	ND	ND	ND	0.0001			
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			
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	0.02		✓

Warkworth Wells WTP Treated Water

Chemical and Physical									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
UV absorbance at 254nm	Abs units	1	0.01	0.01	0.01	0.002			
Alkalinity (Total) as CaCO ₃	mg/L	4	180	180	180	1			
Aluminium	mg/L	1	ND	ND	ND	0.005		0.1	
Bromate	mg/L	4	ND	ND	ND	0.005	0.01		✓
Bromide	mg/L	4	0.05	0.02	0.04	0.01			
Calcium	mg/L	4	25.0	16.0	21.5	0.01			
Calcium Hardness	mg/L	4	67	40	54	0.025			
Chlorate	mg/L	4	0.01	ND	ND	0.01	0.8		✓
Chloride	mg/L	1	26.00	26.00	26.00	0.02		250	
Chlorine Residual	mg/L	122	1.84	0.55	1.04	0.02	5	0.6-1.0	✓
Chlorite	mg/L	4	ND	ND	ND	0.005	0.8		✓
Colour	Hazen Units	1	ND	ND	ND	5		10	
Conductivity	mS/m	1	42.6	42.6	42.6	0.5			
Cyanide	mg/L	1	ND	ND	ND	0.005	0.6		✓
Fluoride	mg/L	1	0.15	0.15	0.15	0.02	1.5		✓
Iodide	mg/L	1	0.004	0.004	0.004	0.002			
Iron	mg/L	52	0.017	ND	0.002	0.002		0.2	
Magnesium	mg/L	4	8.3	5.7	7.0	0.001			
Magnesium Hardness	mg/L	4	34	23	29	0.0041			
Manganese	mg/L	52	0.0013	ND	ND	0.0005	0.4	0.04	✓
pH	pH Units	122	8.0	7.3	7.6	0.1		7.0-8.5	
Potassium	mg/L	1	0.42	0.42	0.42	0.1			
Silicon	mg/L	1	50.0	50.0	50.0	0.1			
Sodium	mg/L	1	70	70	70	0.1		200	
Sulphate	mg/L	1	6	6	6	0.02		250	

Chemical and Physical cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Suspended Solids	mg/L	1	ND	ND	ND	0.2			
Total Dissolved Solids	mg/L	1	270	270	270	15		1000	
Total Hardness	mg/L	4	96	61	82	0.029		200	
Total Organic Carbon TOC	mg/L	1	0.7	0.7	0.70	0.1			
Turbidity	NTU	122	0.3	ND	0.1	0.05		2.5	

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
<i>E. coli</i>	MPN/100mL	122	ND	ND	ND	1	<1		✓

Nutrients									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Ammonia	mg/L	1	0.008	0.008	0.008	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	1	0.075	0.075	0.075	0.005			
Nitrate (as NO ₃)	mg/L	1	0.024	0.024	0.024	0.009	50		✓
Nitrite (as NO ₂)	mg/L	1	ND	ND	ND	0.007	0.20		✓
TKN (Total Kjeldahl Nitrogen)	mg/L	1	ND	ND	ND	0.1			
Total Phosphorus	mg/L	1	0.075	0.075	0.075	0.005			

Semi Volatile Organic Compounds									
Organochlorine Pesticides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Hexachlorobenzene	µg/L	2	ND	ND	ND	0.1			

Trace Elements									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Antimony	mg/L	1	ND	ND	ND	0.001	0.02		✓
Arsenic	mg/L	13	0.0002	ND	ND	0.0001	0.01		✓
Barium	mg/L	1	0.0003	0.0003	0.0003	0.0002	0.7		✓
Boron	mg/L	1	0.14	0.14	0.14	0.005	1.4		✓
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		✓
Lead	mg/L	1	ND	ND	ND	0.0001	0.01		✓
Lithium	mg/L	1	0.0120	0.0120	0.0120	0.0001			
Mercury	mg/L	1	ND	ND	ND	0.00005	0.007		✓
Molybdenum	mg/L	1	ND	ND	ND	0.0003	0.07		✓
Nickel	mg/L	1	ND	ND	ND	0.0001	0.08		✓
Zinc	mg/L	1	0.001	0.001	0.001	0.001		1.5	

Trihalomethanes									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Bromodichloromethane	mg/L	52	0.0160	0.0049	0.0077	0.0001	0.06		✓
Bromoform	mg/L	52	0.0056	ND	0.0019	0.0001	0.1		✓
Chloroform	mg/L	52	0.0094	ND	0.0062	0.0001	0.4		✓
Dibromochloromethane	mg/L	52	0.0120	0.0040	0.0075	0.0001	0.15		✓
THM Sum Ratio		52	0.40	0.14	0.21		1		✓

Volatile Organic Compounds									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
1,1,1-trichloroethane	mg/L	1	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	1	ND	ND	ND	0.0001			
1,2,4-trichlorobenzene	mg/L	1	ND	ND	ND	0.0001			
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			
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	0.02		✓

Wellsford WTP Treated Water

Acid Herbicides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
2,4,5- trichlorophenoxyacetic acid (2,4,5-T)	mg/L	13	ND	ND	ND	0.0001			
2,4-Dichlorophenoxyacetic acid (2,4-BD)	mg/L	13	ND	ND	ND	0.0001			
4-(2,4-dichlorophenoxy) butanoic acid (2,4-DB)	mg/L	13	ND	ND	ND	0.0001			
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 DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
UV absorbance at 254nm	Abs units	50	0.029	0.009	0.018	0.002			
Alkalinity (Total) as CaCO ₃	mg/L	51	78	30	48	1			
Aluminium	mg/L	52	1.200	0.008	0.066	0.005		0.1	
Bromate	mg/L	4	ND	ND	ND	0.005	0.01		✓
Bromide	mg/L	4	0.05	0.02	0.03	0.01			
Calcium	mg/L	13	20.0	9.9	13.7	0.01			
Calcium Hardness	mg/L	13	50	25	34	0.025			
Chlorate	mg/L	4	ND	ND	ND	0.01	0.8		✓
Chloride	mg/L	4	30.20	25.30	27.40	0.02		250	
Chlorine Residual	mg/L	122	1.95	0.61	1.34	0.02	5	0.6-1.0	✓
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 DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Colour	Hazen Units	4	ND	ND	ND	5		10	
Conductivity	mS/m	13	38.4	23.6	28.7	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.005	0.6		✓
Fluoride	mg/L	13	0.05	ND	0.02	0.02	1.5		✓
Iodide	mg/L	4	0.004	ND	0.002	0.002			
Iron	mg/L	13	0.026	ND	0.006	0.002		0.2	
Magnesium	mg/L	13	7.1	3.4	4.7	0.001			
Magnesium Hardness	mg/L	13	29.00	14.00	19.46	0.0041			
Manganese	mg/L	13	0.0310	0.0039	0.0153	0.0005	0.4	0.04	✓
pH	pH unit	122	7.7	6.8	7.2	0.1		7.0-8.5	
Potassium	mg/L	4	2.4	1.1	1.7	0.1			
Silicon	mg/L	4	17.0	12.0	15.0	0.1			
Sodium	mg/L	4	33.0	26.0	28.3	0.1		200	
Sulphate	mg/L	4	39.00	29.40	36.00	0.02		250	
Suspended Solids	mg/L	13	2.60	ND	0.24	0.2			
Total Dissolved Solids	mg/L	13	240	120	170			1000	
Total Hardness	mg/L	13	78	40	54	0.03		200	
Total Organic Carbon TOC	mg/L	52	2.8	0.90	1.6	0.1			
Turbidity	NTU	122	1.20	0.05	0.17	0.05		2.5	

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
<i>E. coli</i>	MPN/100mL	122	ND	ND	ND	1	<1		✓

Nutrients									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Ammonia	mg/L	4	ND	ND	ND	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	13	0.009	0.002	0.005	0.005			
Nitrate (as NO ₃)	mg/L	13	5.314	0.016	1.445	0.009	50		✓
Nitrite (as NO ₂)	mg/L	13	ND	ND	ND	0.007	0.20		✓
TKN (Total Kjeldahl Nitrogen)	mg/L	4	0.13	ND	ND	0.1			
Total Phosphorus	mg/L	13	0.016	ND	0.006	0.005			

Plasticizers									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
bis (2-ethylhexyl) adipate	µg/L	13	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	13	ND	ND	ND	2	9		✓

Polycyclic Aromatic Hydrocarbons									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Benzo(a)pyrene	µg/L	13	ND	ND	ND	0.1	0.7		✓

Semi Volatile Organic Compounds									
Organochlorine Pesticides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Aldrin + Dieldrin	µg/L	13	ND	ND	ND	0.01	0.04		✓
Chlordane	µg/L	13	ND	ND	ND	0.01	0.2		✓
Lindane	µg/L	13	ND	ND	ND	0.01	2		✓
Heptachlor	µg/L	13	ND	ND	ND	0.01			
Heptachlor epoxide	µg/L	13	ND	ND	ND	0.01			

Organochlorine Pesticides cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Hexachlorobenzene	µg/L	13	ND	ND	ND	0.1			
Methoxychlor	µg/L	13	ND	ND	ND	0.2	20		✓
Permethrin (cis + trans)	µg/L	13	ND	ND	ND	0.2			
DDT + isomers	µg/L	13	ND	ND	ND	0.2	1		✓
Procymidone	µg/L	13	ND	ND	ND	0.2	700		✓
Organonitrogen Herbicides									
Alachlor	µg/L	13	ND	ND	ND	0.2	20		✓
Atrazine	µg/L	13	ND	ND	ND	0.1	2		✓
Metolachlor	µg/L	13	ND	ND	ND	0.1	10		✓
Molinate	µg/L	13	ND	ND	ND	0.1	7		✓
Pendimethalin	µg/L	13	ND	ND	ND	0.2	20		✓
Propanil	µg/L	13	ND	ND	ND	0.1			
Simazine	µg/L	13	ND	ND	ND	0.1	2		✓
Terbuthilazine	µg/L	13	ND	ND	ND	0.2	8		✓
Trifluralin	µg/L	13	ND	ND	ND	0.2	30		✓
Organophosphorus Pesticides									
Chlorpyrifos	µg/L	13	ND	ND	ND	0.2	40		✓
Diazinon	µg/L	13	ND	ND	ND	0.1			
Pirymiphos methyl	µg/L	13	ND	ND	ND	0.2	100		✓

Trace Elements									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Antimony	mg/L	4	ND	ND	ND	0.001	0.02		✓
Arsenic	mg/L	4	0.0002	ND	0.0002	0.0001	0.01		✓
Barium	mg/L	4	0.023	0.013	0.017	0.0002	0.7		✓
Boron	mg/L	4	0.02	ND	0.01	0.005	1.4		✓
Cadmium	mg/L	4	ND	ND	ND	0.00005	0.004		✓

Trace Elements cont.									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Chromium	mg/L	4	0.0006	ND	0.0001	0.0001	0.05		✓
Copper	mg/L	4	0.0100	0.0019	0.0059	0.0002	2		✓
Lead	mg/L	4	0.00016	ND	0.0001	0.0001	0.01		✓
Lithium	mg/L	4	0.0021	0.0009	0.0015	0.0001			
Molybdenum	mg/L	4	ND	ND	ND	0.00005	0.07		✓
Mercury	mg/L	4	ND	ND	ND	0.0003	0.007		✓
Nickel	mg/L	4	0.0007	0.0003	0.0005	0.0001	0.08		✓
Selenium	mg/L	4	ND	ND	ND	0.0005	0.01		✓
Zinc	mg/L	4	0.009	0.002	0.005	0.001		1.5	

Trihalomethanes									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Bromodichloromethane	mg/L	51	0.0240	ND	0.0074	0.0001	0.06		✓
Bromoform	mg/L	51	0.0055	ND	0.0012	0.0001	0.1		✓
Chloroform	mg/L	51	0.0280	ND	0.0053	0.0001	0.4		✓
Dibromochloromethane	mg/L	51	0.0190	0.0018	0.0067	0.0001	0.15		✓
THM Sum Ratio		51	0.58	0.05	0.19		1		✓

Volatile Organic Compounds									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
1,1,1-trichloroethane	mg/L	13	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	13	ND	ND	ND	0.0001			
1,2,4-trichlorobenzene	mg/L	13	ND	ND	ND	0.0001			
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 DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Benzene	mg/L	13	ND	ND	ND	0.0001	0.01		✓
Carbon tetrachloride	mg/L	13	ND	ND	ND	0.0001			
Ethylbenzene	mg/L	13	ND	ND	ND	0.0001	0.3	0.002	✓
m- & p-Xylene	mg/L	13	ND	ND	ND	0.0001	0.6		✓
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	0.02		✓

Halo Acetic Acids (HAAs)									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2018)
Bromoacetic Acid	mg/L	4	ND	ND	ND	0.0005			
Bromochloroacetic Acid	mg/L	4	0.0067	0.0015	0.0042	0.0005			
Monochloroacetic Acid	mg/L	4	ND	ND	ND	0.0005	0.02		✓
Dibromoacetic Acid	mg/L	4	0.0036	0.0013	0.0025	0.0005			
Dichloroacetic Acid	mg/L	4	0.0054	ND	0.0032	0.0005	0.05		✓
Trichloroacetic Acid	mg/L	4	0.0055	ND	0.0025	0.0005	0.2		✓
HAA Sum Ratio		4	0.1400	ND	0.0775				

Water Quality Compliance Data for the Distribution Network Grading Zones

Anzac Grading 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	0.39	7.40	0.00
Median	0.20	0.00	0.98	7.70	0.00
Average	0.22	0.00	0.96	7.75	0.27
Maximum	0.45	0.00	1.33	8.10	21.00
Count of Results	98	99	98	98	99

Auckland Grading Zone

Supplied by: Ardmore, Huia, Onehunga, 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	7.20	0.00
Median	0.15	0.00	0.92	7.70	0.00
Average	0.24	0.26	0.90	7.76	1.84
Maximum	11.00	200*	1.85	8.60	200.00
Count of Results	745	756	796	745	756

* The *E. coli* result of 200 MPN/100mL was reported to the Auckland Regional Public Health Service. Investigations confirmed this result was due to incorrect sampling procedure and was not representative of the water in supply. Compliance with the DWSNZ was maintained.

Auckland Airport Grading 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	0.05	0.00	0.66	7.60	0.00
Median	0.15	0.00	0.98	7.80	0.00
Average	0.18	0.00	0.96	7.80	0.09
Maximum	0.55	0.00	1.75	8.20	6.40
Count of Results	110	113	110	110	113

Bombay Grading 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	0.05	0.00	0.49	7.30	0.00
Median	0.10	0.00	0.88	7.70	0.00
Average	0.12	0.00	0.86	7.72	0.01
Maximum	0.25	0.00	1.36	8.10	1.00
Count of Results	85	86	85	85	86

Buckland Grading 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	0.47	7.30	0.00
Median	0.20	0.00	0.98	7.80	0.00
Average	0.22	0.00	0.95	7.76	0.01
Maximum	0.55	0.00	1.25	8.10	1.00
Count of Results	86	87	86	86	87

Central Business District Grading 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	0.45	7.50	0.00
Median	0.20	0.00	0.83	7.80	0.00
Average	0.20	0.00	0.81	7.87	0.25
Maximum	2.50	0.00	1.12	9.50	18.00
Count of Results	184	186	208	184	186

Clarks / Waiau Beach Grading 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	0.29	7.60	0.00
Median	0.20	0.00	0.88	7.90	0.00
Average	0.22	0.00	0.85	7.87	0.51
Maximum	0.65	0.00	1.19	8.20	25.00
Count of Results	86	87	86	86	87

East Tamaki / Botany Grading 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	7.40	0.00
Median	0.15	0.00	1.03	7.70	0.00
Average	0.19	0.00	1.02	7.73	1.74
Maximum	2.10	0.00	1.64	8.10	200.00
Count of Results	244	247	269	244	247

Glenbrook Beach Grading 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	0.23	7.60	0.00
Median	0.20	0.00	0.76	7.80	0.00
Average	0.20	0.00	0.75	7.84	0.87
Maximum	0.65	0.00	1.06	8.10	74.00
Count of Results	86	87	86	86	87

Glen Eden / New Lynn Grading 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	0.43	7.10	0.00
Median	0.15	0.00	0.97	7.60	0.00
Average	0.32	0.00	0.97	7.62	0.09
Maximum	31.00	0.00	1.62	8.30	7.50
Count of Results	244	248	244	244	248

HBC / Waiwera Grading 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	0.13	7.30	0.00
Median	0.20	0.00	0.84	7.90	0.00
Average	0.21	0.00	0.79	8.05	0.71
Maximum	2.10	0.00	1.89	9.00	120.00
Count of Results	294	295	335	294	295

Helensville / Parakai Grading 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	0.21	7.20	0.00
Median	0.10	0.00	0.82	7.40	0.00
Average	0.12	0.00	0.84	7.36	2.76
Maximum	0.30	0.00	1.46	7.80	200.00
Count of Results	98	100	97	98	100

Henderson Grading 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	0.05	0.00	0.39	6.90	0.00
Median	0.15	0.00	0.93	7.60	0.00
Average	0.22	0.00	0.92	7.65	1.84
Maximum	11.00	0.00	1.40	8.20	200.00
Count of Results	440	445	465	440	445

High Head Grading 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	0.32	7.40	0.00
Median	0.20	0.00	1.06	7.70	0.00
Average	0.20	0.00	1.02	7.69	1.05
Maximum	0.45	0.00	1.39	8.20	200.00
Count of Results	230	234	352	230	234

Hillsborough Grading Zone

Supplied by: Ardmore, Huia, Onehunga, 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	0.05	0.00	0.03	7.20	0.00
Median	0.15	0.00	0.94	7.70	0.00
Average	0.20	0.00	0.92	7.75	2.39
Maximum	2.10	0.00	1.70	8.30	200.00
Count of Results	269	276	269	269	276

Hilltop Grading 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	0.23	7.50	0.00
Median	0.20	0.00	0.56	7.80	0.00
Average	0.20	0.00	0.58	7.79	0.23
Maximum	0.45	0.00	0.97	8.00	15.00
Count of Results	97	98	97	97	98

Howick / Pakuranga Grading 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	0.35	7.50	0.00
Median	0.15	0.00	0.88	7.80	0.00
Average	0.19	0.00	0.88	7.84	0.64
Maximum	1.50	0.00	1.77	8.50	200.00
Count of Results	366	370	366	366	370

Huia Village Grading Zone

Supplied by: Huia Village 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	0.25	7.40	0.00
Median	0.10	0.00	0.88	7.90	0.00
Average	0.15	0.00	0.86	7.90	1.64
Maximum	0.95	0.00	1.48	8.40	140.00
Count of Results	124	126	124	124	126

Kitchener Grading 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	0.27	7.40	0.00
Median	0.20	0.00	0.98	7.80	0.00
Average	0.23	0.00	0.97	7.77	0.25
Maximum	0.45	0.00	1.51	8.10	32.00
Count of Results	145	147	145	145	147

Laingholm Grading 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	0.00	0.00	0.45	6.60	0.00
Median	0.20	0.00	0.82	7.70	0.00
Average	0.23	0.00	0.84	7.81	0.66
Maximum	3.00	0.00	1.92	8.70	22.00
Count of Results	125	126	125	125	126

Mangere Grading 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	0.42	7.20	0.00
Median	0.20	0.00	1.02	7.80	0.00
Average	0.20	0.00	1.00	7.76	1.07
Maximum	0.55	0.00	1.47	8.30	200.00
Count of Results	279	283	279	279	283

Manurewa Grading 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	0.05	0.00	0.48	7.40	0.00
Median	0.20	0.00	0.96	7.80	0.00
Average	0.24	0.00	0.95	7.82	1.34
Maximum	6.80	0.00	1.40	8.30	200.00
Count of Results	267	271	267	267	271

Maungawhau Grading 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	0.20	7.40	0.00
Median	0.15	0.00	0.83	7.70	0.00
Average	0.20	0.01	0.82	7.71	1.21
Maximum	9.70	5.30**	1.39	8.10	200.00
Count of Results	670	683	969	670	683

** The *E. coli* result of 5.30 MPN/100mL was reported to the Auckland Regional Public Health Service. Investigations confirmed this result was due to environmental contamination of the sample and was not representative of the water in supply. Compliance with the DWSNZ was maintained.

Montana Grading 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	0.05	0.00	0.38	7.20	0.00
Median	0.15	0.00	0.96	7.50	0.00
Average	0.19	0.01	0.93	7.55	0.18
Maximum	1.30	1.00***	1.24	8.20	15.00
Count of Results	173	177	225	173	177

*** The *E. coli* result of 1.0 MPN/100mL was reported to the Auckland Regional Public Health Service. Investigations confirmed this result was due to environmental contamination of the sample and was not representative of the water in supply. Compliance with the DWSNZ was maintained.

Mt Hobson Grading 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	0.05	0.00	0.33	7.40	0.00
Median	0.15	0.00	0.72	7.80	0.00
Average	0.20	0.00	0.70	7.76	0.44
Maximum	1.80	0.00	1.16	8.00	89.00
Count of Results	223	226	263	223	226

Muriwai Grading 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	0.05	0.00	0.48	7.10	0.00
Median	0.10	0.00	1.09	7.30	0.00
Average	0.15	0.00	1.11	7.32	3.40
Maximum	0.80	0.00	1.65	7.60	200.00
Count of Results	85	86	85	85	86

North Shore South Grading 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	0.32	7.40	0.00
Median	0.15	0.00	0.79	7.80	0.00
Average	0.21	0.00	0.79	7.79	0.47
Maximum	5.70	0.00	1.28	8.50	200.00
Count of Results	488	495	639	488	495

North Shore West Grading 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	0.12	7.30	0.00
Median	0.15	0.00	0.84	7.70	0.00
Average	0.19	0.00	0.84	7.72	0.24
Maximum	1.30	0.00	1.43	8.70	59.00
Count of Results	595	605	815	595	605

Onehunga Grading Zone

Supplied by: Onehunga 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	0.52	7.60	0.00
Median	0.10	0.00	0.95	7.80	0.00
Average	0.12	0.00	0.93	7.82	1.56
Maximum	0.60	0.00	1.27	8.10	120.00
Count of Results	135	137	135	135	137

Oratia Grading 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	0.34	7.20	0.00
Median	0.15	0.00	0.82	8.00	0.00
Average	0.20	0.00	0.81	8.04	0.08
Maximum	1.40	0.00	1.38	8.80	2.00
Count of Results	125	126	125	125	126

Otahuhu Grading 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	7.40	0.00
Median	0.15	0.00	1.06	7.70	0.00
Average	0.20	0.00	1.05	7.73	0.28
Maximum	1.50	0.00	1.31	8.00	25.00
Count of Results	110	113	110	110	113

Otara / Papatoetoe / Manukau Central Grading 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	0.05	0.00	0.45	7.20	0.00
Median	0.20	0.00	1.06	7.70	0.00
Average	0.22	0.00	1.02	7.74	1.09
Maximum	4.40	1.00****	1.82	8.30	200.00
Count of Results	258	261	258	258	261

**** The *E. coli* result of 1.0 MPN/100mL was reported to the Auckland Regional Public Health Service. Investigations confirmed this result was due to environmental contamination of the sample and was not representative of the water in supply. Compliance with the DWSNZ was maintained.

Patumahoe Grading 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	0.43	7.40	0.00
Median	0.20	0.00	0.86	7.70	0.00
Average	0.20	0.00	0.86	7.73	0.03
Maximum	0.45	0.00	1.19	8.10	2.00
Count of Results	97	97	97	97	97

Snells / Algies Grading Zone

Supplied by: Snells/Algies 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	0.39	8.20	0.00
Median	0.10	0.00	1.20	8.40	0.00
Average	0.12	0.00	1.17	8.36	2.57
Maximum	0.65	0.00	1.70	8.50	200.00
Count of Results	98	99	98	98	99

Swanson Grading 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	0.25	7.50	0.00
Median	0.20	0.00	0.78	7.80	0.00
Average	0.23	0.00	0.79	7.84	0.18
Maximum	3.10	0.00	1.62	8.40	8.70
Count of Results	148	148	148	148	148

Te Henga Grading 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	0.04	7.50	0.00
Median	0.15	0.00	0.69	7.95	0.00
Average	0.22	0.00	0.70	8.04	0.27
Maximum	1.40	0.00	1.20	10.10	27.00
Count of Results	126	129	126	126	129

Waiuku Grading 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	0.32	7.70	0.00
Median	0.10	0.00	0.76	8.00	0.00
Average	0.13	0.00	0.77	7.96	1.85
Maximum	1.40	0.00	1.25	8.10	200.00
Count of Results	109	110	109	109	110

Warkworth Grading 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	0.43	7.40	0.00
Median	0.10	0.00	0.80	7.70	0.00
Average	0.10	0.00	0.82	7.67	0.89
Maximum	0.25	0.00	1.71	8.00	53.00
Count of Results	86	87	86	86	87

Wellsford Grading 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	0.10	0.00	0.07	7.10	0.00
Median	0.15	0.00	0.74	7.30	0.00
Average	0.18	0.00	0.71	7.34	3.38
Maximum	0.90	0.00	1.15	7.60	200.00
Count of Results	110	112	110	110	112

Whenuapai Grading 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	0.47	7.40	0.00
Median	0.15	0.00	0.84	7.80	0.00
Average	0.18	0.00	0.85	7.83	0.44
Maximum	0.80	0.00	1.29	8.40	48.00
Count of Results	170	173	194	170	173