

# ANNUAL WATER QUALITY REPORT 2017-2018

## Ardmore A Block Treated Water

Acidic Herbicides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
2,4,5- trichlorophenoxyacetic acid (2,4,5-T)	mg/L	4	ND	ND	ND	0.0001			
2,4-Dichlorophenoxyacetic acid (2,4-D)	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 2008)
UV absorbance	Abs units	52	0.019	0.009	0.015	0.002			
Alkalinity (Total)	mg/L CaCO <sub>3</sub>	52	18	12	15	1			
Aluminium	mg/L	52	0.029	0.018	0.022	0.005		0.1	
Bromate	mg/L	4	ND	ND	ND	0.005	0.01		✓
Bromide	mg/L	4	0.01	0.010	0.01	0.01			
Calcium	mg/L	13	8.8	6.5	7.4	0.01			
Calcium Hardness	mg/L	13	22	16	18	0.025			
Chlorate	mg/L	4	ND	ND	ND	0.01	0.8		✓
Chloride	mg/L	4	13.00	11.00	12.25	0.02		250	
Chlorine Residual	mg/L	365	1.46	0.21	1.22	0.02	5	0.6-1.0	✓
Chlorite	mg/L	4	ND	ND	ND	0.005	0.8		✓
Colour	Hazen Units	13	ND	ND	ND	5		10	
Conductivity	mS/cm	13	10.8	10.0	10.4	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.005	0.6		✓
Fluoride	mg/L	52	0.8	0.10**	0.7	0.02	1.5		✓
Iodide	mg/L	4	0.005	0.003	0.004	0.002			
Iron (Total)	mg/L	52	0.014	0.007	0.010	0.002		0.2	
Magnesium	mg/L	13	1.50	1.20	1.35	0.001			
Magnesium Hardness	mg/L	13	6.300	5.100	5.638	0.0041			
Manganese	mg/L	52	0.0810	0.0014	0.0076	0.0005	0.4	0.04	✓
pH	pH Units	365	8.4	6.6*	7.8	0.1		7.0-8.5	
Potassium	mg/L	5	1.1	1.0	1.1	0.1			
Silicon	mg/L	5	14.0	12.0	13.0	0.1			
Sodium	mg/L	5	8.7	7.3	8.0	0.1		200	
Sulphate	mg/L	4	13.0	8.1	9.6	0.02		250	
Suspended Solids	mg/L	13	0.2	ND	ND	0.2			
Total Hardness	mg/L	12	27.00	22.00	18.70	0.029		200	
Total Organic Carbon TOC	mg/L	13	2.0	0.70	1.0	0.1			
Turbidity	NTU	365	4.3***	ND	0.2	0.1		2.5	

\* One treated water sample, tested In June 2018 at the Ardmore A block, had the pH below the lower GV limit of 7, as set out in the DWSNZ. This was due to the laboratory testing that has coincided with the short period of time when the post lime dosing was shut down. The post lime dosing was stopped to facilitate changes to the control system.

\*\*One treated water sample, collected in May 2018 from the Ardmore A Block, returned low result for fluoride. This was due to sampling that coincided with annual maintenance on the online fluoride analyser. At that time fluoride dosing was temporarily out of service.

\*\*\* In 2017/18, two turbidity samples exceeded the GV for turbidity of 2.5 NTU. The results were 4.3 NTU (6/12/17) and 2.8 NTU (1/01/18). These elevated turbidity results were not confirmed by the online monitoring. The maximum turbidity by the online monitoring on the 6th December 2017 and the 1st January 2018 was 0.22 NTU and 0.99 NTU respectively (refer attached graphs). Investigation has confirmed that these samples were not representative of the water supplied from the Ardmore Water Treatment Plant.

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limits	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
<i>E.coli</i>	MPN/100mL	365	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 2008)
Ammonia	mg/L N	4	ND	ND	ND	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	4	0.007	ND	0.006	0.005			
Nitrate	mg/L NO3	4	0.487	0.292	0.368	0.009	50		✓
Nitrite	mg/L NO2	4	ND	ND	ND	0.007	0.2		✓
TKN (Total Kjeldahl Nitrogen)	mg/L N	4	ND	ND	ND	0.1			
Total Phosphorus	mg/L	4	0.014	ND	0.007	0.005			

Plasticizers									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
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 2008)
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 2008)
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									
Chlorpyrifos	µg/L	4	ND	ND	ND	0.2	40		✓
Diazinon	µg/L	4	ND	ND	ND	0.1			
Pyrimphos 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 2008)
Antimony	mg/L	4	ND	ND	ND	0.001	0.02		✓
Arsenic	mg/L	4	0.0002	ND	0.0001	0.0001	0.01		✓
Barium	mg/L	4	0.0071	0.0058	0.0065	0.0002	0.7		✓
Boron	mg/L	4	0.013	ND	0.003	0.005	1.4		✓
Cadmium	mg/L	4	ND	ND	ND	0.00005	0.004		✓
Chromium	mg/L	4	0.0008	ND	0.0003	0.0005	0.05		✓
Copper	mg/L	4	0.0004	0.0003	0.0003	0.0002	2		✓
Lead	mg/L	4	ND	ND	ND	0.0001	0.01		✓
Lithium	mg/L	2	0.0003	ND	0.0002	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 2008)
Bromodichloromethane	mg/L	52	0.0077	0.0027	0.0048	0.0001	0.06		✓
Bromoform	mg/L	52	0.0130	ND	0.0013	0.0001	0.1		✓
Chloroform	mg/L	52	0.0092	ND	0.0044	0.0001	0.4		✓
Dibromochloromethane	mg/L	52	0.0065	0.0025	0.0044	0.0001	0.15		✓
THMs Ratio		52	0.29	0.07	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 2008)
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		✓

Ardmore B1 Block Treated Water

Acidic Herbicides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
2,4,5- trichlorophenoxyacetic acid (2,4,5-T)	mg/L	4	ND	ND	ND	0.0001			
2,4-Dichlorophenoxyacetic acid (2,4-D)	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 2008)
UV absorbance	Abs units	52	0.019	0.009	0.014	0.002			
Alkalinity (Total)	mg/L CaCO3	52	18	13	16	1			
Aluminium	mg/L	52	0.047	0.017	0.022	0.005		0.1	
Bromate	mg/L	4	ND	ND	ND	0.005	0.01		✓
Bromide	mg/L	4	0.01	ND	0.01	0.01			
Calcium	mg/L	13	8.7	6.6	7.6	0.01			
Calcium Hardness	mg/L	13	22	17	19	0.025			
Chlorate	mg/L	4	ND	ND	ND	0.01	0.8		✓
Chloride	mg/L	4	13.00	11.00	12.25	0.02		250	
Chlorine Residual	mg/L	365	1.50	0.86	1.24	0.02	5	0.6-1.00	✓
Chlorite	mg/L	4	ND	ND	ND	0.005	0.8		✓
Colour	Hazen Units	13	ND	ND	ND	5		10	
Conductivity	mS/cm	13	10.9	10.0	10.4	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.005	0.6		✓
Fluoride	mg/L	52	0.80	0.60	0.70	0.02	1.5		✓
Iodide	mg/L	4	0.007	0.003	0.005	0.002			
Iron (Total)	mg/L	52	0.021	0.006	0.009	0.002		0.2	
Magnesium	mg/L	13	1.50	1.20	1.35	0.001			
Magnesium Hardness	mg/L	13	6.400	5.100	5.638	0.0041			
Manganese	mg/L	52	0.0077	0.0014	0.0039	0.0005	0.4	0.04	✓
pH	pH Units	365	8.3	7.3	7.9	0.1		7.0-8.5	
Potassium	mg/L	4	1.1	1.0	1.1	0.1			
Silicon	mg/L	4	14.0	12.0	13.0	0.1			
Sodium	mg/L	4	8.7	7.4	8.0	0.1		200	
Sulphate	mg/L	4	13.00	8.20	9.80	0.02		250	
Suspended Solids	mg/L	13	0.40	ND	0.10	0.20			
Total Hardness	mg/L	13	27	22	25	0.029		200	
Total Organic Carbon TOC	mg/L	13	1.8	0.7	1.0	0.1			
Turbidity	NTU	365	0.6	0.1	0.2	0.1		2.5	

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
<i>E.coli</i>	MPN/100mL	365	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 2008)
Ammonia	mg/L N	4	0.005	ND	0.001	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	4	0.008	ND	0.007	0.005			
Nitrate	mg/L NO3	4	0.443	0.279	0.354	0.009	50		✓
Nitrite	mg/L NO2	4	ND	ND	ND	0.007	0.2		✓
TKN (Total Kjeldahl Nitrogen)	mg/L N	4	ND	ND	ND	0.1			
Total Phosphorus	mg/L	4	0.007	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 2008)
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 2008)
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 2008)
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									
Chlorpyrifos	µg/L	4	ND	ND	ND	0.2	40		✓
Diazinon	µg/L	4	ND	ND	ND	0.1			
Pyrimphos 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 2008)
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	0.0069	0.0059	0.0063	0.0002	0.7		✓
Boron	mg/L	4	0.012	0.000	0.005	0.005	1.4		✓
Cadmium	mg/L	4	ND	ND	ND	0.00005	0.004		✓
Chromium	mg/L	4	0.0008	0.0005	0.0007	0.0005	0.05		✓
Copper	mg/L	4	0.0003	ND	0.0003	0.0002	2		✓
Lead	mg/L	4	ND	ND	ND	0.0001	0.01		✓
Lithium	mg/L	2	ND	ND	ND	0.0001			
Mercury	mg/L	4	ND	ND	ND	0.00005	0.007		✓
Molybdenum	mg/L	4	ND	ND	ND	0.0003	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	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 2008)
Bromodichloromethane	mg/L	52	0.0120	ND	0.0073	0.0001	0.06		✓
Bromoform	mg/L	52	0.0034	ND	0.0014	0.0001	0.1		✓
Chloroform	mg/L	52	0.0140	ND	0.0067	0.0001	0.4		✓
Dibromochloromethane	mg/L	52	0.0088	ND	0.0058	0.0001	0.15		✓
THMs Ratio		52	0.32	ND	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 2008)
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		✓

## Ardmore WTP Treated B2

Acidic Herbicides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
2,4,5- trichlorophenoxyacetic acid (2,4,5-T)	mg/L	4	ND	ND	ND	0.0001			
2,4-Dichlorophenoxyacetic acid (2,4-D)	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 2008)
UV absorbance	Abs units	52	0.017	0.009	0.014	0.002			
Alkalinity (Total)	mg/L CaCO <sub>3</sub>	52	18	13	16	1			
Aluminium	mg/L	52	0.073	0.017	0.024	0.005		0.1	
Bromate	mg/L	4	ND	ND	ND	0.005	0.01		✓
Bromide	mg/L	4	0.01	0.01	0.01	0.01			
Calcium	mg/L	13	8.8	ND	6.9	0.01			
Calcium Hardness	mg/L	13	22	ND	17	0.025			
Chlorate	mg/L	4	ND	ND	ND	0.01	0.8		✓
Chloride	mg/L	4	13.00	11.00	12.25	0.02		250	
Chlorine Residual	mg/L	365	1.52	0.83	1.23	0.02	5	0.6-1.00	✓
Chlorite	mg/L	4	ND	ND	ND	0.005	0.8		✓
Colour	Hazen Units	13	ND	ND	ND	5		10	
Conductivity	mS/cm	13	11.1	10.1	10.5	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.005	0.6		✓
Fluoride	mg/L	52	0.80	0.60	0.70	0.02	1.5		✓
Iodide	mg/L	4	0.006	0.003	0.004	0.002			
Iron (Total)	mg/L	52	0.110	ND	0.014	0.002		0.2	
Magnesium	mg/L	13	1.50	ND	1.26	0.001			
Magnesium Hardness	mg/L	13	6.300	ND	5.231	0.0041			
Manganese	mg/L	52	0.012	0.001	0.004	0.0005	0.4	0.04	✓
pH	pH Units	365	8.4	7.4	7.9	0.1		7.0-8.5	
Potassium	mg/L	4	1.1	1.1	1.1	0.1			
Silicon	mg/L	4	14.0	12.0	13.3	0.1			
Sodium	mg/L	4	8.7	7.6	8.1	0.1		200	
Sulphate	mg/L	4	13.00	8.20	9.80	0.02		250	
Suspended Solids	mg/L	13	0.4	ND	0.1	0.2			
Total Hardness	mg/L	13	27	ND	23	0.029		200	
Total Organic Carbon TOC	mg/L	13	1.6	0.8	1.0	0.1			
Turbidity	NTU	365	0.7	ND	0.2	0.1		2.5	

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
<i>E.coli</i>	MPN/100mL	365	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 2008)
Ammonia	mg/L N	4	ND	ND	ND	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	4	0.007	0.00	0.005	0.005			
Nitrate	mg/L NO <sub>3</sub>	4	0.443	0.279	0.352	0.009	50		✓
Nitrite	mg/L NO <sub>2</sub>	4	ND	ND	ND	0.007	0.2		✓
TKN (Total Kjeldahl Nitrogen)	mg/L N	4	0.100	ND	ND	0.1			
Total Phosphorus	mg/L	4	0.006	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 2008)
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 2008)
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 2008)
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									
Chlorpyrifos	µg/L	4	ND	ND	ND	0.2	40		✓
Diazinon	µg/L	4	ND	ND	ND	0.1			
Pyrimphos 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 2008)
Antimony	mg/L	4	ND	ND	ND	0.001	0.02		✓
Arsenic	mg/L	4	0.0002	0.0002	0.0002	0.0001	0.01		✓
Barium	mg/L	4	0.0071	0.0052	0.0063	0.0002	0.7		✓
Boron	mg/L	4	0.013	ND	0.006	0.005	1.4		✓
Cadmium	mg/L	4	ND	ND	ND	0.00005	0.004		✓
Chromium	mg/L	4	0.0007	ND	0.0004	0.0005	0.05		✓
Copper	mg/L	4	0.0003	0.0003	0.0003	0.0002	2		✓
Lead	mg/L	4	ND	ND	ND	0.0001	0.01		✓
Lithium	mg/L	2	0.0004	ND	0.0002	0.0001			
Mercury	mg/L	1	ND	ND	ND	0.00005	0.007		✓
Molybdenum	mg/L	4	ND	ND	ND	0.0003	0.07		✓
Nickel	mg/L	4	ND	ND	ND	0.0001	0.08		✓
Selenium	mg/L	4	ND	ND	ND	0.0005	0.01		✓
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 2008)
Bromodichloromethane	mg/L	52	0.0160	0.0034	0.0080	0.0001	0.06		✓
Bromoform	mg/L	52	0.0034	ND	0.0014	0.0001	0.1		✓
Chloroform	mg/L	52	0.0130	0.0023	0.0070	0.0001	0.4		✓
Dibromochloromethane	mg/L	52	0.0094	0.0029	0.0062	0.0001	0.15		✓
THMs Ratio		52	0.38	0.084	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 2008)
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		✓

Bombay WTP Treated

Acidic Herbicides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
2,4,5- trichlorophenoxyacetic acid (2,4,5-T)	mg/L	13	ND	ND	ND	0.0001			
2,4-Dichlorophenoxyacetic acid (2,4-D)	mg/L	13	ND	ND	ND	0.0001			
4-(2,4-dichlorophenoxy) butanoic (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 2008)
Alkalinity (Total)	mg/L CaCO3	1	81	81	81	1			
Aluminium	mg/L	4	0.007	ND	0.002	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	4	14.0	13.0	13.8	0.01			
Calcium Hardness	mg/L	4	36.0	33.0	34.5	0.025			
Chlorate	mg/L	1	ND	ND	ND	0.01	0.8		✓
Chloride	mg/L	1	82.00	82.00	82.00	0.02		250	
Chlorine Residual	mg/L	121	1.15	0.48	0.75	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/cm	1	46.0	46.0	46.0	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	0.009	0.009	0.009	0.002			
Iron (Total)	mg/L	4	0.003	ND	0.001	0.002		0.2	
Magnesium	mg/L	4	14.00	13.00	13.50	0.001			
Magnesium Hardness	mg/L	4	59.000	54.000	56.250	0.0041			
Manganese	mg/L	4	ND	ND	ND	0.0005	0.4	0.04	✓
pH	pH Units	121	8.2	6.9	7.7	0.1		7.0-8.5	
Potassium	mg/L	1	1.4	1.4	1.4	0.1			
Silicon	mg/L	1	40.0	40.0	40.0	0.1			
Sodium	mg/L	1	47.0	47.0	47.0	0.1		200	
Sulphate	mg/L	1	0.02	0.02	0.02	0.02		250	
Suspended Solids	mg/L	1	ND	ND	ND	0.2			
Total Dissolved Solids	mg/L	1	260	260	260	15		1000	
Total Hardness	mg/L	4	94.00	87.00	91.00	0.029		200	
Total Organic Carbon TOC	mg/L	13	0.8	ND	0.3	0.1			
Turbidity	NTU	121	0.4	0.1	0.1	0.1		2.5	

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
<i>E.coli</i>	MPN/100mL	121	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 2008)
Ammonia	mg/L N	4	ND	ND	ND	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	1	0.016	0.016	0.016	0.005			
Nitrate	mg/L NO3	52	3.700	1.000	1.996	0.009	50		✓
Nitrite	mg/L NO2	1	ND	ND	ND	0.007	0.20		✓
TKN (Total Kjeldahl Nitrogen)	mg/L N	1	ND	ND	ND	0.1			
Total Phosphorus	mg/L	1	0.016	0.016	0.016	0.005			

Plasticizers									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
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 2008)
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 2008)
Aldrin + Dieldrin	µg/L	4	ND	ND	ND	0.01	0.04		√
Chlordane	µg/L	13	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	13	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		√
Terbutylazine	µg/L	4	ND	ND	ND	0.2	8		√
Trifluralin	µg/L	4	ND	ND	ND	0.2	30		√
Organophosphorus Pesticides									
Chlorpyrifos	µg/L	4	ND	ND	ND	0.2	40		√
Diazinon	µg/L	4	ND	ND	ND	0.1			
Pyrimphos 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 2008)
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	ND	ND	ND	0.005	1.4		√
Cadmium	mg/L	4	ND	ND	ND	0.00005	0.004		√
Chromium	mg/L	1	0.0007	0.0007	0.0007	0.0005	0.05		√
Copper	mg/L	4	0.0008	0.0005	0.0006	0.0002	2		√
Lead	mg/L	1	ND	ND	ND	0.0001	0.01		√
Lithium	mg/L	1	0.0005	0.0005	0.0005	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 2008)
Bromodichloromethane	mg/L	13	0.0011	ND	0.0001	0.0001	0.06		✓
Bromoform	mg/L	13	ND	ND	ND	0.0001	0.1		✓
Chloroform	mg/L	13	ND	ND	ND	0.0001	0.4		✓
Dibromochloromethane	mg/L	13	0.0017	ND	0.0002	0.0001	0.15		✓
THMs Ratio		13	0.03	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 2008)
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	✓
Trichloroethene	mg/L	1	ND	ND	ND	0.0001	0.02		✓

Cornwall (Waiuku) WTP Treated

Chemical and Physical									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
Alkalinity (Total)	mg/L CaCO <sub>3</sub>	4	130.00	130.00	130.00	1			
Aluminium	mg/L	1	ND	ND	ND	0.005		0.1	
Bromate	mg/L	1	0.01	0.01	0.01	0.005	0.01		✓
Bromide	mg/L	1	0.03	0.03	0.03	0.01			
Calcium	mg/L	4	34.00	32.00	32.75	0.01			
Calcium Hardness	mg/L	4	84.00	79.00	81.75	0.025			
Chlorate	mg/L	1	0.03	0.03	0.03	0.01	0.8		✓
Chloride	mg/L	1	32.00	32.00	32.00	0.02		250	
Chlorine Residual	mg/L	121	1.35	0.38	0.83	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/cm	1	36.90	36.90	36.90	0.5			
Cyanide	mg/L	1	ND	ND	ND		0.6		✓
Fluoride	mg/L	1	0.05	0.05	0.05	0.02	1.5		✓
Iodide	mg/L	1	0.01	0.01	0.01	0.002			
Iron (Total)	mg/L	13	0.003	ND	ND	0.002		0.2	
Magnesium	mg/L	4	11.00	9.60	10.08	0.001			
Magnesium Hardness	mg/L	4	45.00	39.00	41.50	0.0041			
Manganese	mg/L	13	0.0009	ND	0.0001	0.0005	0.4	0.04	✓
pH	pH Units	121	8.20	7.60	7.95	0.1		7.0-8.5	
Potassium	mg/L	1	3.20	3.20	3.20	0.1			
Silicon	mg/L	1	58.00	58.00	58.00	0.1			
Sodium	mg/L	1	21.00	21.00	21.00	0.1		200	
Sulphate	mg/L	1	5.20	5.20	5.20	0.02		250	
Suspended Solids	mg/L	1	ND	ND	ND	0.2			
Total Dissolved Solids	mg/L	1	240.00	240.00	240.00	15		1000	
Total Hardness	mg/L	4	130.00	120.00	125.00	0.029		200	
Turbidity	NTU	121	0.35	ND	0.11	0.1		2.5	

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
<i>E.coli</i>	MPN/100mL	121	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 2008)
Ammonia	mg/L N	1	ND	ND	ND	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	1	0.051	0.051	0.051	0.005			
Nitrate	mg/L NO <sub>3</sub>	1	0.038	0.038	0.038	0.009	50		✓
Nitrite	mg/L NO <sub>2</sub>	1	0.006	0.006	0.006	0.007	0.20		✓
TKN (Total Kjeldahl Nitrogen)	mg/L N	1	ND	ND	ND	0.1			
Total Phosphorus	mg/L	1	0.052	0.052	0.052	0.005			

Plasticizers									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
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 2008)
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 2008)
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		✓
Pe0.00imethalin	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 2008)
Antimony	mg/L	1	ND	ND	ND	0.001	0.02		✓
Arsenic	mg/L	13	0.0051	0.0043	0.0046	0.0001	0.01		✓
Barium	mg/L	1	ND	ND	ND	0.0002	0.7		✓
Boron	mg/L	1	0.01	0.01	0.01	0.005	1.4		✓
Cadmium	mg/L	1	ND	ND	ND	0.00005	0.004		✓
Chromium	mg/L	1	0.0008	0.0008	0.0008	0.0005	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	0.0094	0.0094	0.0094	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 2008)
Bromodichloromethane	mg/L	13	0.0012	ND	0.0002	0.0001	0.06		✓
Bromoform	mg/L	13	0.0020	ND	0.0002	0.0001	0.1		✓
Chloroform	mg/L	13	0.0014	ND	0.0001	0.0001	0.4		✓
Dibromochloromethane	mg/L	13	0.0019	ND	0.0004	0.0001	0.15		✓
THMs Ratio		13	0.05	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 2008)
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		√

Helensville WTP Treated

Acid Herbicides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
2,4,5- trichlorophenoxyacetic acid (2,4,5-T)	mg/L	13	ND	ND	ND	0.0001			
2,4-Dichlorophenoxyacetic acid (2,4-D)	mg/L	13	ND	ND	ND	0.0001			
4-(2,4-dichlorophenoxy) butanoic (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 2008)
UV Absorbance	Abs units	52	0.032	0.013	0.021	0.002			
Alkalinity (Total)	mg/L CaCO3	52	79	27	50	1			
Aluminium	mg/L	52	0.042	0.012	0.017	0.005		0.1	
Bromate	mg/L	4	ND	ND	ND	0.005	0.01		✓
Bromide	mg/L	4	0.05	0.03	0.04	0.01			
Calcium	mg/L	13	17	8	13	0.01			
Calcium Hardness	mg/L	13	42.00	21.00	32.00	0.025			
Chlorate	mg/L	4	ND	ND	ND	0.01	0.8		✓
Chloride	mg/L	4	63.00	45.00	56.00	0.02		250	
Chlorine Residual	mg/L	121	2.10	0.84	1.31	0.02	5	0.6-1.0	✓
Chlorite	mg/L	4	ND	ND	ND	0.005	0.8		✓
Colour	Hazen Units	4	ND	ND	ND	5		10	
Conductivity	mS/cm	13	45.2	29.8	38.9	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.005	0.6		✓
Fluoride	mg/L	13	0.07	ND	0.02	0.02	1.5		✓
Iodide	mg/L	4	0.005	ND	0.003	0.002			
Iron (Total)	mg/L	13	ND	ND	ND	0.002		0.2	
Magnesium	mg/L	13	13.00	6.40	10.29	0.001			
Magnesium Hardness	mg/L	13	54.000	27.000	42.077	0.0041			
Manganese	mg/L	13	0.0077	ND	0.0028	0.0005	0.4	0.04	✓
pH	pH Units	121	8.3	6.8	7.2	0.1		7.0-8.5	
Potassium	mg/L	4	3.7	2.2	3.0	0.1			
Silicon	mg/L	4	22.0	16.0	20.0	0.1			
Sodium	mg/L	4	50.0	34.0	41.8	0.1		200	
Sulphate	mg/L	4	55.00	38.00	46.75	0.02		250	
Suspended Solids	mg/L	13	0.3	ND	0.1	0.2			
Total Dissolved Solids	mg/L	13	300	170	238	15		1000	
Total Hardness	mg/L	13	94	48	74	0.029		200	
Total Organic Carbon TOC	mg/L	52	3.1	0.7	1.7	0.1			
Turbidity	NTU	121	0.9	ND	0.1	0.1		2.5	

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
<i>E.coli</i>	MPN/100mL	121	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 2008)
Ammonia	mg/L N	4	ND	ND	ND	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	4	0.009	0.003	0.006	0.005			
Nitrate	mg/L NO3	13	0.130	0.023	0.064	0.009	50		√
Nitrite	mg/L NO2	13	ND	ND	ND	0.007	0.20		√
TKN (Total Kjeldahl Nitrogen)	mg/L N	4	0.1	ND	ND	0.1			
Total Phosphorus	mg/L	13	0.220	ND	0.024	0.005			

Plasticizers									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
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 2008)
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 2008)
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		√
Procyridone	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		√
Terbutylazine	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 2008)
Antimony	mg/L	4	ND	ND	ND	0.001	0.02		√
Arsenic	mg/L	14	0.0003	ND	0.0002	0.0001	0.01		√
Barium	mg/L	4	0.0270	0.0240	0.0250	0.0002	0.7		√
Boron	mg/L	4	0.030	0.008	0.022	0.005	1.4		√
Cadmium	mg/L	4	ND	ND	ND	0.00005	0.004		√
Chromium	mg/L	4	0.0006	0.0005	0.0005	0.0005	0.05		√
Copper	mg/L	4	0.0036	0.0003	0.0003	0.0002	2		√
Lead	mg/L	4	0.0004	ND	0.0002	0.0001	0.01		√
Lithium	mg/L	4	0.0029	0.0014	0.0023	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	0.0047	0.0005	0.0020	0.0001	0.08		√
Selenium	mg/L	4	ND	ND	ND	0.0005	0.01		√
Zinc	mg/L	4	0.008	0.002	0.006	0.001		1.5	

Trihalomethanes									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
Bromodichloromethane	mg/L	28	0.0200	0.0037	0.0078	0.0001	0.06		√
Bromoform	mg/L	28	0.0140	0.0018	0.0066	0.0001	0.1		√
Chloroform	mg/L	28	0.0096	ND	0.0034	0.0001	0.4		√
Dibromochloromethane	mg/L	28	0.0210	0.0060	0.0119	0.0001	0.15		√
THMs Ratio		28	0.55	0.14	0.28		1		√

Volatile Organic Compounds									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
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		√
Trichloroethene	mg/L	13	ND	ND	ND	0.0001	0.02		√

Huia WTP Treated

Acidic Herbicides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
2,4,5- trichlorophenoxyacetic acid (2,4,5-T)	mg/L	4	ND	ND	ND	0.0001			
2,4-Dichlorophenoxyacetic acid (2,4-D)	mg/L	4	ND	ND	ND	0.0001			
4-(2,4-dichlorophenoxy) butanoic (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 2008)
UV absorbance	Abs units	52	0.024	0.010	0.017	0.002			
Alkalinity (Total)	mg/L CaCO3	52	23	11	14	1			
Aluminium	mg/L	52	0.240	0.017	0.029	0.005		0.1	
Bromate	mg/L	4	ND	ND	ND	0.005	0.01		✓
Bromide	mg/L	4	0.02	0.01	0.01	0.01			
Calcium	mg/L	13	10.0	8.9	9.6	0.01			
Calcium Hardness	mg/L	13	26	22	24	0.025			
Chlorate	mg/L	4	ND	ND	ND	0.01	0.8		✓
Chloride	mg/L	4	22.00	19.00	20.50	0.02		250	
Chlorine Residual	mg/L	365	1.50	0.63	1.13	0.02	5	0.6-1.0	✓
Chlorite	mg/L	4	ND	ND	ND	0.005	0.8		✓
Colour	Hazen Units	13	ND	ND	ND	5		10	
Conductivity	mS/cm	13	15.7	13.9	14.7	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.005	0.6		✓
Fluoride	mg/L	52	0.80	0.60	0.70	0.02	1.5		✓
Iodide	mg/L	4	0.005	0.00	0.003	0.002			
Iron (Total)	mg/L	52	0.420	0.007	0.018	0.002		0.2	
Magnesium	mg/L	13	2.8	2.0	2.4	0.001			
Magnesium Hardness	mg/L	13	11	8	10	0.0041			
Manganese	mg/L	52	0.0260	0.0017	0.0036	0.0005	0.4	0.04	✓
pH	pH Units	365	8.3	7.2	7.6	0.1		7.0-8.5	
Potassium	mg/L	4	0.9	0.8	1.0	0.1			
Silicon	mg/L	4	14.0	12.0	13.0	0.1			
Sodium	mg/L	4	12.0	11.0	11.5	0.1		200	
Sulphate	mg/L	4	19.00	15.00	16.80	0.02		250	
Suspended Solids	mg/L	12	0.3	ND	0.1	0.2			
Total Hardness	mg/L	13	37	32	34	0.029		200	
Total Organic Carbon TOC	mg/L	13	2.0	1.0	1.3	0.1			
Turbidity	NTU	365	4.8*	0.1	0.2	0.1		2.5	

\*An elevated turbidity result was reported by the laboratory on 12/02/2018. An investigation was completed which determined that the sample results were not representative of water being produced by the plant. A build-up of material in the sampling line and adjustments to sampling flow was identified as an issue.

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
<i>E.coli</i>	MPN/100mL	364**	ND	ND	ND	1	<1		✓

\*\*The sample result for 20/11/2017 was withdrawn by the laboratory.

Nutrients									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
Ammonia	mg/L N	4	ND	ND	ND	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	4	0.006	ND	0.006	0.005			
Nitrate	mg/L NO3	4	0.055	0.032	0.043	0.009	50		✓
Nitrite	mg/L NO2	4	ND	ND	ND	0.007	0.20		✓
TKN (Total Kjeldahl Nitrogen)	mg/L N	4	ND	ND	ND	0.1			
Total Phosphorus	mg/L	4	0.009	ND	0.005	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 2008)
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 2008)
Antimony	mg/L	4	ND	ND	ND	0.001	0.02		✓
Arsenic	mg/L	4	0.0001	ND	ND	0.0001	0.01		✓
Barium	mg/L	4	0.0053	0.0045	0.0049	0.0002	0.7		✓
Boron	mg/L	4	0.016	ND	0.010	0.005	1.4		✓
Cadmium	mg/L	3	ND	ND	ND	0.00005	0.004		✓
Chromium	mg/L	4	0.0006	ND	0.0005	0.0005	0.05		✓
Copper	mg/L	4	0.0024	0.0014	0.0018	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			
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 2008)
Bromodichloromethane	mg/L	52	0.0160	0.0033	0.0067	0.0001	0.06		✓
Bromoform	mg/L	52	0.0035	ND	0.0021	0.0001	0.1		✓
Chloroform	mg/L	52	0.0150	ND	0.0046	0.0001	0.4		✓
Dibromochloromethane	mg/L	52	0.0120	0.0036	0.0070	0.0001	0.15		✓
THMs Ratio		52	0.36	0.11	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 2008)
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		✓

Huia Village WTP Treated

Acid Herbicides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
2-4-5-Trichlorophenoxyacetic acid (2,4,5-T)	mg/L	4	ND	ND	ND	0.0001			
2-4-Dichlorophenoxyacetic acid (2,4-D)	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 (MCPP)	mg/L	4	ND	ND	ND	0.0001	0.01		✓
Picloram	mg/L	4	ND	ND	ND	0.0001	0.2		✓
Triclopyr	mg/L	4	ND	ND	ND	0.0001	0.1		✓

Chemical and Physical									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
UV absorbance	Abs units	52	0.24	0.01	0.025	0.002			
Alkalinity (Total)	mg/L CaCO3	52	27	20	23	1			
Aluminium	mg/L	51	0.120	ND	0.004	0.005		0.1	
Bromate	mg/L	4	ND	ND	ND	0.005	0.01		✓
Bromide	mg/L	4	0.02	0.01	0.01	0.01			
Calcium	mg/L	13	5.0	ND	4.3	0.01			
Calcium Hardness	mg/L	13	12	ND	11	0.025			
Chlorate	mg/L	7	0.28	0.11	0.21	0.01	0.8		✓
Chloride	mg/L	4	27.00	26.00	26.75	0.02		250	
Chlorine Residual	mg/L	122	1.58	0.27	1.03	0.02	5	0.6-1.0	✓
Chlorite	mg/L	4	ND	ND	ND	0.005	0.8		✓
Colour	Hazen Units	12	ND	ND	ND	5		10	
Conductivity	mS/cm	12	16.3	14.7	15.3	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.005	0.6		✓
Fluoride	mg/L	12	0.02	ND	ND	0.02	1.5		✓
Iodide	mg/L	4	0.004	0.002	0.003	0.002			
Iron (Total)	mg/L	14	0.004	ND	0.001	0.002		0.2	
Magnesium	mg/L	14	3.0	ND	2.6	0.001			
Magnesium Hardness	mg/L	14	12	ND	11	0.0041			
Manganese	mg/L	14	ND	ND	ND	0.0005	0.4	0.04	✓
pH	pH Units	122	8.5	7.5	7.8	0.1		7.0-8.5	
Potassium	mg/L	4	1.1	1.0	1.0	0.1			
Silicon	mg/L	4	16.0	14.0	14.5	0.1			
Sodium	mg/L	4	18.0	18.0	17.8	0.1		200	
Sulphate	mg/L	4	4.90	4.60	4.70	0.02		250	
Suspended Solids	mg/L	12	0.3	0.0	0.0	0.2			
Total Hardness	mg/L	14	25	ND	22	0.1		200	
Total Organic Carbon TOC	mg/L	12	3.1	1.1	1.5	0.1			
Turbidity	NTU	122	0.50	ND	0.10			2.5	

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
<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 2008)
Ammonia	mg/L N	4	ND	ND	ND	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	4	0.006	0.003	0.005	0.005			
Nitrate	mg/L NO3	4	0.170	0.020	0.092	0.009	50		✓
Nitrite	mg/L NO2	4	ND	ND	ND	0.007	0.20		✓
TKN (Total Kjeldahl Nitrogen)	mg/L N	4	0.2	ND	0.0	0.1			
Total Phosphorus	mg/L	4	0.030	ND	0.011	0.005			

Plasticizers									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
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 2008)
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 2008)
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		✓
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		✓
Terbutylazine	µg/L	4	ND	ND	ND	0.2	8		✓
Trifluralin	µg/L	4	ND	ND	ND	0.2	30		✓
Organophosphorus Pesticides									
Chlorpyrifos	µg/L	4	ND	ND	ND	0.2	40		✓
Diazinon	µg/L	4	ND	ND	ND	0.1			
Pyrimphos 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 2008)
Antimony	mg/L	4	ND	ND	ND	0.001	0.02		✓
Arsenic	mg/L	4	ND	ND	ND	0.0001	0.01		✓
Barium	mg/L	4	0.0045	0.0032	0.0039	0.0002	0.7		✓
Boron	mg/L	4	0.016	ND	0.010	0.005	1.4		✓
Cadmium	mg/L	4	ND	ND	ND	0.00005	0.004		✓
Chromium	mg/L	4	0.0007	ND	0.0005	0.0005	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	0.0004	ND	0.0003	0.0001			
Molybdenum	mg/L	4	ND	ND	ND	0.0003	0.07		✓
Nickel	mg/L	4	0.0004	0.0002	0.0002	0.0001	0.08		✓
Selenium	mg/L	4	ND	ND	ND	0.0005	0.01		✓
Zinc	mg/L	4	0.003	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 2008)
Bromodichloromethane	mg/L	13	0.0130	0.0033	0.0071	0.0001	0.06		✓
Bromoform	mg/L	13	0.0034	ND	0.0021	0.0001	0.1		✓
Chloroform	mg/L	13	0.0095	ND	0.0044	0.0001	0.4		✓
Dibromochloromethane	mg/L	13	0.0100	0.0052	0.0074	0.0001	0.15		✓
THMs Ratio		13	0.31	0.13	0.20		1		✓

**Volatile Organic Compounds**

Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
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		✓
Trichloroethene	mg/L	13	ND	ND	ND	0.0001	0.02		✓

Muriwai WTP Treated

Acid Herbicides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
2-4-5-Trichlorophenoxyacetic acid (2,4,5-T)	mg/L	4	ND	ND	ND	0.0001			
2-4-Dichlorophenoxyacetic acid (2,4-D)	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 (MCPP)	mg/L	4	ND	ND	ND	0.0001	0.01		√
Picloram	mg/L	4	ND	ND	ND	0.0001	0.2		√
Triclopyr	mg/L	4	ND	ND	ND	0.0001	0.1		√

Chemical and Physical									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
UV absorbance	Abs units	13	0.009	ND	0.004	0.002			
Alkalinity (Total)	mg/L CaCO <sub>3</sub>	4	80	74	77	1			
Aluminium	mg/L	1	0.0350	0.0350	0.0350	0.005		0.1	
Bromate	mg/L	1	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	1	0.1	0.1	0.1	0.01			
Calcium	mg/L	4	8	8	8	0.01			
Calcium Hardness	mg/L	4	21	19	20	0.025			
Chlorate	mg/L	7	0.25	0.09	0.18	0.01	0.8		√
Chloride	mg/L	1	72	72	72	0.02		250	
Chlorine Residual	mg/L	121	1.71	0.51	0.94	0.02	5		√
Chlorite	mg/L	4	ND	ND	ND	0.005	0.8		√
Colour	Hazen Units	1	ND	ND	ND	5		10	
Conductivity	mS/cm	1	41.4	41.4	41.4	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	0.0100	0.0100	0.0100	0.002			
Iron (Total)	mg/L	4	0.008	0.004	0.005	0.002		0.2	
Magnesium	mg/L	4	7.0	6.2	6.7	0.001			
Magnesium Hardness	mg/L	4	29	25	28	0.0041			
Manganese	mg/L	4	0.0010	ND	0.0002	0.0005	0.4	0.04	√
pH	pH Units	121	8.0	7.2	7.4	0.1		7.0-8.5	
Potassium	mg/L	1	1.8	1.8	1.8	0.1			
Silicon	mg/L	1	60	60	60	0.1			
Sodium	mg/L	1	61	61	61	0.1		200	
Sulphate	mg/L	1	15	15	15	0.02		250	
Suspended Solids	mg/L	4	0.20	ND	0.05	0.2			
Total Dissolved Solids	mg/L	4	330	280	303	15		1000	
Total Hardness	mg/L	4	50	44	48	0.029		200	
Total Organic Carbon TOC	mg/L	13	0.4	ND	0.2	0.1			
Turbidity	NTU	121	0.60	ND	0.1	0.1		2.5	

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
<i>E.coli</i>	MPN/100mL	121	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 2008)
Ammonia	mg/L N	4	ND	ND	ND	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	4	0.051	0.037	0.044	0.005			
Nitrate	mg/L NO <sub>3</sub>	4	0.790	0.650	0.725	0.009	50		√
Nitrite	mg/L NO <sub>2</sub>	4	ND	ND	ND	0.007	0.20		√
TKN (Total Kjeldahl Nitrogen)	mg/L N	4	ND	ND	ND	0.1			
Total Phosphorus	mg/L	4	0.051	0.043	0.047	0.005			



Plasticizers									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
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 2008)
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 2008)
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			
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			
Pyrimphos 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 2008)
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	0.02	0.02	0.02	0.005	1.4		✓
Cadmium	mg/L	4	ND	ND	ND	0.00005	0.004		✓
Chromium	mg/L	1	0.0011	0.0011	0.0011	0.0005	0.05		✓
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	0.0039	0.0039	0.0039	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	0.0008	0.000	0.0004	0.0001	0.08		✓
Selenium	mg/L	1	ND	ND	ND	0.0005	0.01		✓
Zinc	mg/L	4	0.003	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 2008)
Bromodichloromethane	mg/L	13	ND	ND	ND	0.0001	0.06		✓
Bromoform	mg/L	13	0.0045	0.0020	0.0030	0.0001	0.1		✓
Chloroform	mg/L	13	ND	ND	ND	0.0001	0.4		✓
Dibromochloromethane	mg/L	13	0.0028	ND	0.0016	0.0001	0.15		✓
THMs Ratio		13	0.06	0.02	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 2008)
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	✓
Xylene	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		✓

## Onehunga WTP Treated

Acidic Herbicides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
2,4,5- trichlorophenoxyacetic acid (2,4,5-T)	mg/L	3	ND	ND	ND	0.0001			
2,4-Dichlorophenoxyacetic acid (2,4-D)	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 2008)
UV absorbance	Abs units	12	0.014	0.006	0.010	0.002			
Alkalinity (Total)	mg/L CaCO <sub>3</sub>	3	68	52	61	1			
Aluminium	mg/L	52	0.057	0.007	0.033	0.005		0.1	
Bromide	mg/L	12	0.03	0.02	0.02	0.01			
Calcium	mg/L	3	11.0	8.3	9.5	0.01			
Calcium Hardness	mg/L	3	27	21	24	0.025			
Chlorate	mg/L	3	0.06	0.04	0.05	0.01	0.8		✓
Chloride	mg/L	12	22	18	20	0.02		250	
Chlorine Residual	mg/L	353*	1.31	0.64	1.01	0.02	5	0.6-1.0	✓
Chlorite	mg/L	3	ND	ND	ND	0.005	0.8		✓
Colour	Hazen Units	1	ND	ND	ND	5		10	
Conductivity	mS/cm	12	42.8	22.2	25.4	0.5			
Cyanide	mg/L	3	ND	ND	ND	0.005	0.6		✓
Fluoride (local)	mg/L	12	0.2	0.1	0.1	0.020	1.5		✓
Fluoride (metropolitan)	mg/L	48**	0.89	0.72	0.64	0.02	1.5		✓
Iodide	mg/L	1	0.012	0.012	0.012	0.002			
Iron (Total)	mg/L	51	0.023	ND	0.002	0.002		0.2	
Magnesium	mg/L	3	9.3	7.7	8.6	0.001			
Magnesium Hardness	mg/L	3	38	32	35	0.0041			
Manganese	mg/L	3	ND	ND	ND	0.0005	0.4	0.04	✓
pH	pH Units	353*	8.6	7.3	7.8	0.1		7.0-8.5	
Potassium	mg/L	1	2.7	2.7	2.7	0.1			
Silicon	mg/L	1	30	30	30	0.1			
Sodium	mg/L	1	21	21	21	0.1		200	
Sulphate	mg/L	12	14	12	13	0.02		250	
Suspended Solids	mg/L	3	0.3	ND	0.1	0.2			
Total Dissolved Solids	mg/L	3	230	160	193	15.0		1000	
Total Hardness	mg/L	3	65	53	59	0.029		200	
Total Organic Carbon TOC	mg/L	12	0.6	0.3	0.5	0.1			
Turbidity	NTU	353*	0.7	0.1	0.1	0.1		2.5	

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
<i>E.coli</i>	MPN/100mL	353*	ND	ND	ND	1	<1		✓

\* Onehunga WTP was shut down from the 19 January - 1 February 2018 and the 10 - 12 April 2018. Samples were not collected on the dates that the plant was not producing water during these shutdown periods.

\*\*In 2017/18, 4 fluoride samples were not collected from the Onehunga WTP supply to the wider metropolitan area. Three fluoride samples were not collected on the dates when the Onehunga WTP was not supplying water to the wider metropolitan area. One fluoride sample was not collected during the period the Onehunga WTP was shut down.

Nutrients									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
Ammonia	mg/L N	3	0.016	ND	0.005	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	3	0.130	0.060	0.085	0.005			
Nitrate	mg/L NO3	3	3.20	2.90	3.03	0.009	50		√
Nitrite	mg/L NO2	3	ND	ND	ND	0.007	0.20		√
TKN (Total Kjeldahl Nitrogen)	mg/L N	3	ND	ND	ND	0.1			
Total Phosphorus	mg/L	3	0.120	0.057	0.082	0.005			

Plasticizers									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
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 2008)
Benzo(a)pyrene	µg/L	3	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 2008)
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			
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		√
Terbutylazine	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			
Pyrimphos 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 2008)
Antimony	mg/L	3	ND	ND	ND	0.001	0.02		✓
Arsenic	mg/L	3	0.0003	0.0002	0.0003	0.0001	0.01		✓
Barium	mg/L	1	0.0018	0.0018	0.0018	0.0002	0.7		✓
Boron	mg/L	1	0.044	0.044	0.044	0.005	1.4		✓
Cadmium	mg/L	3	ND	ND	ND	0.00005	0.004		✓
Chromium	mg/L	3	0.0012	0.0009	0.0011	0.0005	0.05		✓
Copper	mg/L	3	0.0049	0.0012	0.0025	0.0002	2		✓
Lead	mg/L	3	ND	ND	ND	0.0001	0.01		✓
Lithium	mg/L	1	0.0005	0.0005	0.0005	0.0001			
Mercury	mg/L	3	ND	ND	ND	0.00005	0.007		✓
Molybdenum	mg/L	1	0.0007	0.0007	0.0007	0.0003	0.07		✓
Nickel	mg/L	3	0.0002	ND	0.0001	0.0001	0.08		✓
Selenium	mg/L	1	0.0005	0.0005	0.0005	0.0005	0.01		✓
Zinc	mg/L	3	0.001	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 2008)
Bromodichloromethane	mg/L	12	0.0012	ND	0.0003	0.0001	0.06		✓
Bromoform	mg/L	12	0.0033	ND	0.0022	0.0001	0.1		✓
Chloroform	mg/L	12	0.0012	ND	0.0001	0.0001	0.4		✓
Dibromochloromethane	mg/L	12	0.0029	ND	0.0016	0.0001	0.15		✓
THMs Ratio		12	0.06	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 2008)
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	✓
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	✓
Xylenes (total)	mg/L	12	ND	ND	ND	0.0001	0.6	0.02	✓
Styrene	mg/L	12	ND	ND	ND	0.0001	0.03	0.004	✓
Tetrachloroethene	mg/L	12	ND	ND	ND	0.0001	0.05		✓
Toluene	mg/L	12	ND	ND	ND	0.0001	0.8	0.03	✓
1,2-dichloroethene (cis + trans)	mg/L	12	ND	ND	ND	0.0001	0.06		✓
Trichloroethene	mg/L	12	ND	ND	ND	0.0001	0.02		✓

Snells/Algies WTP Treated

Chemical and Physical									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
UV Absorbance	Abs units	1	0.009	0.009	0.009				
Alkalinity (Total)	mg/L CaCO3	4	200	190	197	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	0.0	0.0	0.0	0.01			
Calcium	mg/L	4	4	4	4	0.01			
Calcium Hardness	mg/L	4	9.00	9.0000	9.00	0.025			
Chlorate	mg/L	4	0	ND	0	0.01	0.8		✓
Chloride	mg/L	1	40.00	40.00	40.00	0.02		250	
Chlorine Residual	mg/L	121	1.750	0.8500	1.240	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/cm	1	51.2	51.2	51.2	0.5			
Cyanide	mg/L	1	ND	ND	ND	0.005	0.6		✓
Fluoride	mg/L	1	0.110	0.110	0.110	0.02	1.5		✓
Iodide	mg/L	1	0.017	0.017	0.017	0.002			
Iron (Total)	mg/L	13	0.0	0.0	0.0	0.002		0.2	
Magnesium	mg/L	4	0.3	0.3	0.3	0.001			
Magnesium Hardness	mg/L	4	1.300	1.200	1.225	0.0041			
Manganese	mg/L	13	0.0	0.0	0.0	0.0005	0.4	0.04	✓
pH	pH Units	121	8.5	8.0	8.3	0.1		7.0-8.5	
Potassium	mg/L	1	0	0	0	0.1			
Silicon	mg/L	1	47	47	47	0.1			
Sodium	mg/L	1	110.0	110.0	110.0	0.1		200	
Sulphate	mg/L	1	4.700	4.700	4.700	0.02		250	
Suspended Solids	mg/L	1	ND	ND	ND	0.2			
Total Dissolved Solids	mg/L	1	360.0	360.0	360.0	15		1000	
Total Hardness	mg/L	4	10.0	9.9	10.0	0.029		200	
Total Organic Carbon TOC	mg/L	1	2.8	2.8	2.8	0.1			
Turbidity	NTU	121	0.3	ND	0.10	0.1		2.5	

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
<i>E.coli</i>	MPN/100mL	121	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 2008)
Ammonia	mg/L N	1	0.005	0.005	0.005	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	1	0.100	0.100	0.100	0.005			
Nitrate	mg/L NO3	2	0.018	0.013	0.016	0.009	50		✓
Nitrite	mg/L NO2	2	0.007	ND	0.034	0.007	0.20		✓
TKN (Total Kjeldahl Nitrogen)	mg/L N	1	ND	ND	ND	0.1			
Total Phosphorus	mg/L	1	0.11	0.10	0.11	0.005			

Plasticizers									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
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 2008)
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 2008)
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									
Chlorpyrifos	µg/L	1	ND	ND	ND	0.2	40		✓
Diazinon	µg/L	1	ND	ND	ND	0.1			
Pyrimphos 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 2008)
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	ND	ND	ND	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	0.0006	0.0006	0.0006	0.0005	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	0.026	0.026	0.026	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 2008)
Bromodichloromethane	mg/L	13	0.0030	ND	0.0010	0.0001	0.06		✓
Bromoform	mg/L	13	0.0034	ND	0.0015	0.0001	0.1		✓
Chloroform	mg/L	13	0.0017	ND	0.0001	0.0001	0.4		✓
Dibromochlorometane	mg/L	13	0.0035	ND	0.0021	0.0001	0.15		✓
THM Ratio		13	0.11	ND	0.05		1		✓

Volatile Organic Compounds									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
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 (Waiuku) WTP Treated

Chemical and Physical									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
Alkalinity (Total)	mg/L CaCO3	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	4	29.0	27.0	28.3	0.01			
Calcium Hardness	mg/L	4	73	68	71	0.025			
Chlorate	mg/L	1	0.02	0.02	0.02	0.01	0.8		✓
Chloride	mg/L	1	32.00	32.00	32.00	0.02		250	
Chlorine Residual	mg/L	121	1.12	0.42	0.75	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/cm	1	34.8	34.8	34.8	0.5			
Cyanide	mg/L	1	ND	ND	ND	0.005	0.6		✓
Fluoride	mg/L	1	0.10	0.10	0.10	0.02	1.5		✓
Iodide	mg/L	1	0.01	0.01	0.01	0.002			
Iron (Total)	mg/L	13	0.009	ND	0.001	0.002		0.2	
Magnesium	mg/L	4	7.700	6.900	7.220	0.001			
Magnesium Hardness	mg/L	4	32.0	29.0	30.0	0.0041			
Manganese	mg/L	16	0.0020	ND	0.0006	0.0005	0.4	0.04	✓
pH	pH Units	121	8.0	7.8	7.9	0.1		7.0-8.5	
Potassium	mg/L	1	4.9	4.9	4.9	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	4.9	4.9	4.9	0.02		250	
Suspended Solids	mg/L	1	ND	ND	ND	0.2			
Total Dissolved Solids	mg/L	1	200	200	200	15		1000	
Total Hardness	mg/L	4	100	97	99	0.029		200	
Turbidity	NTU	121	0.7	ND	0.1	0.1		2.5	

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
<i>E.coli</i>	MPN/100mL	121	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 2008)
Ammonia	mg/L N	1	ND	ND	ND	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	1	0.057	0.057	0.057	0.005			
Nitrate	mg/L NO3	1	0.027	0.027	0.027	0.009	50		✓
Nitrite	mg/L NO2	1	0.004	0.004	0.004	0.007	0.20		✓
TKN (Total Kjeldahl Nitrogen)	mg/L N	1	ND	ND	ND	0.1			
Total Phosphorus	mg/L	1	0.062	0.062	0.062	0.005			

Plasticizers									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
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 2008)
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 2008)
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									
Chlorpyrifos	µg/L	1	ND	ND	ND	0.2	40		✓
Diazinon	µg/L	1	ND	ND	ND	0.1			
Pyrimphos 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 2008)
Antimony	mg/L	1	ND	ND	ND	0.001	0.02		✓
Arsenic	mg/L	13	0.0037	0.0034	0.0036	0.0001	0.01		✓
Barium	mg/L	1	ND	ND	ND	0.0002	0.7		✓
Boron	mg/L	1	0.017	0.017	0.017	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	0.0005	0.05		✓
Copper	mg/L	1	0.0006	0.0006	0.0006	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 2008)
Bromodichloromethane	mg/L	13	0.0037	0.0018	0.0027	0.0001	0.06		✓
Bromoform	mg/L	13	0.0041	0.0021	0.0031	0.0001	0.1		✓
Chloroform	mg/L	13	0.0020	ND	0.0003	0.0001	0.4		✓
Dibromochlorometane	mg/L	13	0.0050	0.0029	0.0040	0.0001	0.15		✓
THM Ratio		13	0.13	0.08	0.10		1		✓

Volatile Organic Compounds									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
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		✓

Waitakere WTP Treated

Acidic Herbicides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
2,4,5- trichlorophenoxyacetic acid (2,4,5-T)	mg/L	4	ND	ND	ND	0.0001			
2,4-Dichlorophenoxyacetic acid (2,4-D)	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 2008)
UV absorbance	Abs units	48*	0.031	0.009	0.019	0.002			
Alkalinity (Total)	mg/L CaCO3	48*	20	11	16	1			
Aluminium	mg/L	47*	0.037	0.018	0.023	0.005		0.1	
Bromate	mg/L	4	ND	ND	ND	0.005	0.01		✓
Bromide	mg/L	4	0.02	0.01	0.02	0.01			
Calcium	mg/L	13	16.0	8.7	12.2	0.01			
Calcium Hardness	mg/L	13	40	13	30	0.025			
Chlorate	mg/L	4	ND	ND	ND	0.01	0.8		✓
Chloride	mg/L	4	25.00	20.00	22.25	0.02		250	
Chlorine Residual	mg/L	328*	1.62	0.26	1.01	0.02	5	0.6-1.0	✓
Chlorite	mg/L	4	ND	ND	ND	0.005	0.8		✓
Colour	Hazen Units	13	ND	ND	ND	5		10	
Conductivity	mS/cm	13	18.4	12.2	16.0	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.005	0.6		✓
Fluoride	mg/L	48*	0.70	ND*	0.60	0.02	1.5		✓
Iodide	mg/L	4	0.004	0.00	0.003	0.002			
Iron (Total)	mg/L	47*	0.047	0.008	0.013	0.002		0.2	
Magnesium	mg/L	13	2.5	1.6	2.2	0.001			
Magnesium Hardness	mg/L	13	10	7	9	0.0041			
Manganese	mg/L	47*	0.0260	0.0023	0.0083	0.0005	0.4	0.04	✓
pH	pH Units	328*	8.1	7.3	7.7	0.1		7.0-8.5	
Potassium	mg/L	4	1.2	0.9	1.0	0.1			
Silicon	mg/L	4	11.0	10.0	10.5	0.1			
Sodium	mg/L	4	13.0	12.0	12.5	0.1		200	
Sulphate	mg/L	4	27.00	19.00	21.50	0.02		250	
Suspended Solids	mg/L	13	0.4	ND	0.1	0.2			
Total Hardness	mg/L	13	49	28	40	0.029		200	
Total Organic Carbon TOC	mg/L	13	5.5	1.0	1.7	0.1			
Turbidity	NTU	328*	0.5	0.1	0.2	0.1		2.5	

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
<i>E.coli</i>	MPN/100mL	328*	1*	ND	ND	1	<1		

\*Waitakere WTP was shut down from the 14 - 30 August 2017 and the 21 May - 12 June 2018. Samples were not collected on the dates that the plant was not producing water during these shutdown periods. No sample analysis results are available for 23 March 2018 due to sample collection error. Online monitoring confirmed process stability.

Nutrients									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
Ammonia	mg/L N	4	ND	ND	ND	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	4	0.008	0.004	0.006	0.005			
Nitrate	mg/L NO3	4	0.140	0.015	0.052	0.009	50		✓
Nitrite	mg/L NO2	4	ND	ND	ND	0.007	0.20		✓
TKN (Total Kjeldahl Nitrogen)	mg/L N	4	0.1	ND	ND	0.1			
Total Phosphorus	mg/L	4	0.011	ND	0.007	0.005			

Plasticizers									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
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 2008)
Benzo(a)pyrene	µg/L	4	ND	ND	ND	0	0.7		✓

Semi Volatile Organic Compounds									
Organochlorine Pesticides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
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		✓
Terbutylazine	µg/L	4	ND	ND	ND	0.2	8		✓
Trifluralin	µg/L	4	ND	ND	ND	0.2	30		✓
Organophosphorus Pesticides									
Chlorpyrifos	µg/L	4	ND	ND	ND	0.2	40		✓
Diazinon	µg/L	4	ND	ND	ND	0.1			
Pyrimphos 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 2008)
Antimony	mg/L	4	ND	ND	ND	0.001	0.02		✓
Arsenic	mg/L	4	0.0002	ND	0.0001	0.0001	0.01		✓
Barium	mg/L	4	0.0069	0.0062	0.0064	0.0002	0.7		✓
Boron	mg/L	4	0.018	ND	0.011	0.005	1.4		✓
Cadmium	mg/L	4	ND	ND	ND	0.00005	0.004		✓
Chromium	mg/L	4	0.0009	ND	0.0004	0.0005	0.05		✓
Copper	mg/L	4	0.0038	0.0015	0.0025	0.0002	2		✓
Lead	mg/L	4	ND	ND	ND	0.0001	0.01		✓
Lithium	mg/L	4	0.0005	0.0005	0.0007	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	0.0002	0.0001	0.08		✓
Selenium	mg/L	4	ND	ND	ND	0.0005	0.01		✓
Zinc	mg/L	4	0.002	0.001	0.002	0.001		1.5	

Trihalomethanes									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
Bromodichloromethane	mg/L	48	0.0210	0.0061	0.0117	0.0001	0.06		✓
Bromoform	mg/L	48	0.0052	ND	0.0026	0.0001	0.1		✓
Chloroform	mg/L	48	0.0190	0.0028	0.0093	0.0001	0.4		✓
Dibromochloromethane	mg/L	48	0.0200	0.0066	0.0107	0.0001	0.15		✓
THMs Ratio		48	0.47	0.19	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 2008)
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	0.03	✓
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		✓

Waikato WTP Treated

Acidic Herbicides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
1080 (Sodium fluoroacetate)	mg/L	2	ND	ND	ND	0.0001	0.0035		
2,4,5- trichlorophenoxyacetic (2,4,5-T)	mg/L	13	ND	ND	ND	0.0001			
2,4-Dichlorophenoxyacetic acid (2,4-D)	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 2008)
UV absorbance	Abs units	52	0.160	0.013	0.025	0.002			
Alkalinity (Total)	mg/L CaCO3	52	57	30	44	1			
Aluminium	mg/L	52	0.079	0.022	0.032	0.005		0.1	
Bromate	mg/L	4	ND	ND	ND	0.005	0.01		✓
Bromide	mg/L	4	ND	ND	ND	0.01			
Calcium	mg/L	13	21.0	15.0	17.5	0.01			
Calcium Hardness	mg/L	13	54	41	48	0.025			
Chlorate	mg/L	7	0.26	ND	0.19	0.01	0.8		✓
Chloride	mg/L	4	21.00	17.00	19.00	0.02		250	
Chlorine Residual	mg/L	365	1.56	0.24	1.25	0.02	5	0.6-1.0	✓
Chlorite	mg/L	4	ND	ND	ND	0.005	0.8		✓
Colour	Hazen Units	4	ND	ND	ND	5		10	
Conductivity	mS/cm	13	25.2	15.6	21.7	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.005	0.6		✓
Fluoride	mg/L	52	0.80	0.20*	0.70	0.02	1.5		✓
Iodide	mg/L	4	0.004	0.002	0.003	0.002			
Iron (Total)	mg/L	13	0.027	0.017	0.022	0.002		0.2	
Magnesium	mg/L	13	3.0	2.5	2.7	0.001			
Magnesium Hardness	mg/L	13	12	10	11	0.0041			
Manganese	mg/L	52	0.0030	0.0010	0.0020	0.0005	0.4	0.04	✓
pH	pH Units	365	8.6	6.9	7.7	0.1		7.0-8.5	
Potassium	mg/L	4	3.1	2.9	3.0	0.1			
Silicon	mg/L	4	33.0	26.0	28.8	0.1			
Sodium	mg/L	4	20.0	15.0	17.5	0.1		200	
Sulphate	mg/L	4	34.00	23.00	27.50	0.02		250	
Suspended Solids	mg/L	13	2.3	ND	0.5	0.2			
Total Dissolved Solids	mg/L	13	190	150	169				
Total Hardness	mg/L	13	64.0	49.0	55.2	0.029		200	
Total Organic Carbon TOC	mg/L	13	2.1	0.7	1.4	0.1			
Turbidity	NTU	365	1.8	0.1	0.2	0.1		2.5	

\*One treated water sample, collected in December 2018 from the Waikato WTP returned low result for fluoride. This was due to sampling that coincided with annual maintenance on the online fluoride analyser. At that time fluoride dosing was temporarily out of service.

Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
<i>E.coli</i>	MPN/100mL	365	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 2008)
Ammonia	mg/L N	4	ND	ND	ND	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	13	0.013	0.006	0.010	0.005			
Nitrate	mg/L NO3	13	4.429	1.461	2.746	0.009	50		✓
Nitrite	mg/L NO2	13	0.009	ND	ND	0.007	0.20		✓
TKN (Total Kjeldahl Nitrogen)	mg/L N	4	0.1	ND	0.1	0.1			
Total Phosphorus	mg/L	13	0.060	0.007	0.018	0.005			

Plasticizers									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
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 2008)
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 2008)
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		✓
Terbutylazine	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			
Pyrimphos 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 2008)
Antimony	mg/L	4	ND	ND	ND	0.001	0.02		✓
Arsenic	mg/L	4	0.0013	0.0005	0.0009	0.0001	0.01		✓
Barium	mg/L	4	0.0260	0.0170	0.0200	0.0002	0.7		✓
Boron	mg/L	13	0.180	0.097	0.146	0.005	1.4		✓
Cadmium	mg/L	4	ND	ND	ND	0.00005	0.004		✓
Chromium	mg/L	4	0.0008	ND	0.0006	0.0005	0.05		✓
Copper	mg/L	4	0.0010	0.0004	0.0007	0.0002	2		✓
Lead	mg/L	4	ND	ND	ND	0.0001	0.01		✓
Lithium	mg/L	4	0.0610	0.0320	0.0453	0.0001			
Mercury	mg/L	52	0.00150	ND	ND	0.00005	0.007		✓
Molybdenum	mg/L	4	0.0004	ND	0.0002	0.0003	0.07		✓
Nickel	mg/L	4	0.0005	0.00020	0.0003	0.0001	0.08		✓
Selenium	mg/L	4	ND	ND	ND	0.0005	0.01		✓
Zinc	mg/L	4	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 2008)
Bromodichloromethane	mg/L	52	0.0120	0.0030	0.0054	0.0001	0.06		✓
Bromoform	mg/L	52	0.0033	ND	0.0008	0.0001	0.1		✓
Chloroform	mg/L	52	0.0150	0.0015	0.0054	0.0001	0.4		✓
Dibromochloromethane	mg/L	52	0.0091	0.0021	0.0042	0.0001	0.15		✓
THMs Ratio		52	0.33	0.08	0.14		1		✓

Volatile Organic Compounds									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
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		✓

Waiuku Road (Waiuku) WTP Treated

Chemical and Physical									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
Alkalinity (Total)	mg/L CaCO <sub>3</sub>	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	4	29.0	27.0	28.3	0.01			
Calcium Hardness	mg/L	4	73	68	71	0.025			
Chlorate	mg/L	1	0.02	0.02	0.02	0.01	0.8		✓
Chloride	mg/L	1	32.00	32.00	32.00	0.02		250	
Chlorine Residual	mg/L	121	1.12	0.42	0.75	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/cm	1	34.8	34.8	34.8	0.5			
Cyanide	mg/L	1	ND	ND	ND	0.005	0.6		✓
Fluoride	mg/L	1	0.10	0.10	0.10	0.02	1.5		✓
Iodide	mg/L	1	0.009	0.009	0.009	0.002			
Iron (Total)	mg/L	13	0.009	ND	0.001	0.002		0.2	
Magnesium	mg/L	4	7.7	6.9	7.2	0.001			
Magnesium Hardness	mg/L	4	32	29	30	0.0041			
Manganese	mg/L	16	0.0020	ND	0.0006	0.0005	0.4	0.04	✓
pH	pH Units	121	8.0	7.8	7.9	0.1		7.0-8.5	
Potassium	mg/L	1	4.9	4.9	4.9	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	
Suspended Solids	mg/L	1	ND	ND	ND	0.2			
Total Dissolved Solids	mg/L	1	200	200	200	15		1000	
Total Hardness	mg/L	4	100	97	99	0.03		200	
Turbidity		121	0.7	ND	0.1	0.1		2.5	

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
<i>E.coli</i>	MPN/100mL	121	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 2008)
Ammonia	mg/L N	1	ND	ND	ND	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	1	0.057	0.057	0.057	0.005			
Nitrate	mg/L NO <sub>3</sub>	1	0.027	0.027	0.027	0.009	50		✓
Nitrite	mg/L NO <sub>2</sub>	1	0.004	0.004	0.004	0.007	0.20		✓
TKN (Total Kjeldahl Nitrogen)	mg/L N	1	ND	ND	ND	0.1			
Total Phosphorus	mg/L	1	0.062	0.062	0.062	0.005			

Plasticizers									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
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 2008)
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 2008)
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									
Chlorpyrifos	µg/L	1	ND	ND	ND	0.2	40		✓
Diazinon	µg/L	1	ND	ND	ND	0.1			
Pyrimphos 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 2008)
Antimony	mg/L	1	ND	ND	ND	0.001	0.02		✓
Arsenic	mg/L	13	0.0037	0.0034	0.0036	0.0001	0.01		✓
Barium	mg/L	1	ND	ND	ND	0.0002	0.7		✓
Boron	mg/L	1	0.017	0.017	0.017	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	0.0005	0.05		✓
Copper	mg/L	1	0.0006	0.0006	0.0006	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			
Molybdenum	mg/L	1	ND	ND	ND	0.00005	0.07		✓
Mercury	mg/L	1	ND	ND	ND	0.0003	0.007		✓
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 2008)
Bromodichloromethane	mg/L	13	0.0037	0.0018	0.0027	0.0001	0.06		✓
Bromoform	mg/L	13	0.0041	0.0021	0.0031	0.0001	0.1		✓
Chloroform	mg/L	13	0.0020	ND	0.0003	0.0001	0.4		✓
Dibromochloromethane	mg/L	13	0.0050	0.0029	0.0040	0.0001	0.15		✓
THMs Ratio		13	0.13	0.08	0.10		1		✓

Volatile Organic Compounds									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
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	0.03	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		✓

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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 2008)
2-4-5-Trichlorophenoxyacetic	mg/L	13	ND	ND	ND	0.0001			
2-4-Dichlorophenoxyacetic acid	mg/L	13	ND	ND	ND	0.0001			
4-(2-4-Dichlorophenoxy) butano	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 (MCPP)	mg/L	13	ND	ND	ND	0.0001	0.01		✓
Picloram	mg/L	13	ND	ND	ND	0.0001	0.2		✓
Triclopyr	mg/L	13	ND	ND	ND	0.0001	0.1		✓

Chemical and Physical									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
UV absorbance	Abs units	52	0.03	0.01	0.01	0.002			
Alkalinity (Total)	mg/L CaCO3	52	55	19	32	1			
Aluminium	mg/L	52	0.320	0.010	0.031	0.005		0.1	
Bromate	mg/L	4	ND	ND	ND	0.005	0.01		✓
Bromide	mg/L	4	0.03	0.02	0.02	0.01			
Calcium	mg/L	13	14.0	9.3	11.6	0.01			
Calcium Hardness	mg/L	13	35	23	29	0.025			
Chlorate	mg/L	4	ND	ND	ND	0.01	0.8		✓
Chloride	mg/L	4	30.00	21.00	25.50	0.02		250	
Chlorine Residual	mg/L	122	1.69	0.76	1.17	0.02	5	0.6-1.0	✓
Chlorite	mg/L	4	ND	ND	ND	0.005	0.8		✓
Colour	Hazen Units	4	ND	ND	ND	5		10	
Conductivity	mS/cm	13	28.1	19.1	22.8	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.005	0.6		✓
Fluoride	mg/L	13	0.04	ND	ND	0.02	1.5		✓
Iodide	mg/L	4	0.004	0.003	0.003	0.002			
Iron (Total)	mg/L	13	0.012	ND	0.004	0.002		0.2	
Magnesium	mg/L	13	5.5	2.7	3.9	0.001			
Magnesium Hardness	mg/L	13	23	11	16	0.0041			
Manganese	mg/L	13	0.0880	0.0095	0.0222	0.0005	0.4	0.04	✓
pH	pH Units	121	7.9	7.0	7.4	0.1		7.0-8.5	
Potassium	mg/L	3	1.70	0.81	1.40	0.1			
Silicon	mg/L	3	21.0	15.0	17.7	0.1			
Sodium	mg/L	3	30	20	25	0.1		200	
Sulphate	mg/L	5	39	25	29	0.02		250	
Suspended Solids	mg/L	13	0.60	ND	0.10	0.2			
Total Dissolved Solids	mg/L	13	230	87	153	15		1000	
Total Hardness	mg/L	13	58	36	45	0.029		200	
Total Organic Carbon TOC	mg/L	13	2.0	0.5	1.20	0.1			
Turbidity	NTU	121	0.3	0.10	0.1	0.1		2.5	

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
<i>E.coli</i>	MPN/100mL	121	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 2008)
Ammonia	mg/L N	4	0.006	0.005	0.003	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	13	0.009	0.003	0.005	0.005			
Nitrate	mg/L NO3	13	0.470	0.027	0.203	0.009	50		✓
Nitrite	mg/L NO2	13	ND	ND	ND	0.007	0.20		✓
TKN (Total Kjeldahl Nitrogen)	mg/L N	4	ND	ND	ND	0.1			
Total Phosphorus	mg/L	13	0.032	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 2008)
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 2008)
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 2008)
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			
Pyrimphos 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 2008)
Antimony	mg/L	4	ND	ND	ND	0.001	0.02		√
Arsenic	mg/L	4	0.0003	0.0001	0.0002	0.0001	0.01		√
Barium	mg/L	4	0.018	0.012	0.015	0.0002	0.7		√
Boron	mg/L	4	0.024	0.006	0.018	0.005	1.4		√
Cadmium	mg/L	4	ND	ND	ND	0.00005	0.004		√
Chromium	mg/L	4	0.0007	ND	0.0005	0.0005	0.05		√
Copper	mg/L	4	0.0009	0.0004	0.0006	0.0002	2		√
Lead	mg/L	4	ND	ND	ND	0.0001	0.01		√
Lithium	mg/L	4	0.0022	0.0015	0.0017	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	0.0007	0.0005	0.0005	0.0001	0.08		√
Selenium	mg/L	4	ND	ND	ND	0.0005	0.01		√
Zinc	mg/L	4	0.005	0.003	0.004	0.001		1.5	

Trihalomethanes									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
Bromodichloromethane	mg/L	30*	0.0120	0.0018	0.0044	0.0001	0.06		✓
Bromoform	mg/L	30*	0.0051	ND	0.0030	0.0001	0.1		✓
Chloroform	mg/L	30*	0.0100	ND	0.0024	0.0001	0.4		✓
Dibromochloromethane	mg/L	30*	0.0130	0.0025	0.0059	0.0001	0.15		✓
THMs Ratio		30*	0.34	0.06	0.15		1		✓

\*In 2017/18, sampling frequency increased from monthly to weekly as of February 2018.

Volatile Organic Compounds									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
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		✓
Trichloroethene	mg/L	13	ND	ND	ND	0.0001	0.02		✓

Wellsford WTP Treated

Acid Herbicides									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
2-4-5-Trichlorophenoxyacetic	mg/L	13	ND	ND	ND	0.0001			
2-4-Dichlorophenoxyacetic acid	mg/L	13	ND	ND	ND	0.0001			
4-(2-4-Dichlorophenoxy) butano	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 (MCPP)	mg/L	13	ND	ND	ND	0.0001	0.01		✓
Picloram	mg/L	13	ND	ND	ND	0.0001	0.2		✓
Triclopyr	mg/L	13	ND	ND	ND	0.0001	0.1		✓

Chemical and Physical									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
UV absorbance	Abs units	52	0.03	0.01	0.02	0.002			
Alkalinity (Total)	mg/L CaCO3	52	58	33	43	1			
Aluminium	mg/L	52	0.68	0.008	0.06	0.005		0.1	
Bromate	mg/L	4	ND	ND	ND	0.005	0.01		✓
Bromide	mg/L	4	0.10	0.01	0.04	0.01			
Calcium	mg/L	13	12.00	9.10	10.30	0.01			
Calcium Hardness	mg/L	13	31.00	23.00	26.00	0.025			
Chlorate	mg/L	4	0.010	ND	ND	0.01	0.8		✓
Chloride	mg/L	4	27.00	24.00	25.75	0.02		250	
Chlorine Residual	mg/L	121	1.72	0.52	1.30	0.02	5	0.6-1.0	✓
Chlorite	mg/L	4	ND	ND	ND	0.005	0.8		✓
Colour	Hazen Units	4	ND	ND	ND	5		10	
Conductivity	mS/cm	13	26.2	22.1	24.6	0.5			
Cyanide	mg/L	4	ND	ND	ND	0.005	0.6		✓
Fluoride	mg/L	13	ND	ND	ND	0.02	1.5		✓
Iodide	mg/L	4	0.003	0.003	0.003	0.002			
Iron (Total)	mg/L	13	0.012	ND	0.005	0.002		0.2	
Magnesium	mg/L	13	5.0	3.2	3.8	0.001			
Magnesium Hardness	mg/L	13	21	13	16	0.0041			
Manganese	mg/L	13	0.040	0.008	0.014	0.0005	0.4	0.04	✓
pH	pH Units	121	7.8	7.1	7.3	0.1		7.0-8.5	
Potassium	mg/L	4	2.1	1.0	1.5	0.1			
Silicon	mg/L	4	19.0	15.0	17.0	0.1			
Sodium	mg/L	4	30.0	29.0	29.5	0.1		200	
Sulphate	mg/L	4	39.00	28.00	33.50	0.02		250	
Suspended Solids	mg/L	13	0.4	ND	0.1	0.2			
Total Dissolved Solids	mg/L	13	180	140	161	15		1000	
Total Hardness	mg/L	15	52	36	42	0.029		200	
Total Organic Carbon TOC	mg/L	52	5.1	0.6	1.4	0.1			
Turbidity	NTU	121	0.6	ND	0.20	0.1		2.5	

Microbiology									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
<i>E.coli</i>	MPN/100mL	121	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 2008)
Ammonia	mg/L N	4	ND	ND	ND	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	13	0.010	0.004	0.005	0.005			
Nitrate	mg/L NO3	13	0.480	0.016	0.275	0.009	50		✓
Nitrite	mg/L NO2	13	ND	ND	ND	0.007	0.20		✓
TKN (Total Kjeldahl Nitrogen)	mg/L N	4	0.2	ND	0.1	0.1			
Total Phosphorus	mg/L	13	0.015	ND	0.007	0.005			



Plasticizers									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
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 2008)
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 2008)
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			
Pyrimphos 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 2008)
Antimony	mg/L	4	ND	ND	ND	0.001	0.02		√
Arsenic	mg/L	4	0.0001	ND	0.0001	0.0001	0.01		√
Barium	mg/L	4	0.0210	0.0140	0.0168	0.0002	0.7		√
Boron	mg/L	4	0.017	ND	0.012	0.005	1.4		√
Cadmium	mg/L	4	ND	ND	ND	0.00005	0.004		√
Chromium	mg/L	4	0.0006	ND	0.0003	0.0005	0.05		√
Copper	mg/L	4	0.0060	0.0025	0.0041	0.0002	2		√
Lead	mg/L	4	ND	ND	ND	0.0001	0.01		√
Lithium	mg/L	4	0.0014	0.0003	0.0010	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	0.0007	0.0004	0.0005	0.0001	0.08		√
Selenium	mg/L	4	ND	ND	ND	0.0005	0.01		√
Zinc	mg/L	4	0.007	0.005	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 2008)
Bromodichloromethane	mg/L	28	0.0250	0.0023	0.0067	0.0001	0.06		✓
Bromoform	mg/L	28	0.0065	ND	0.0027	0.0001	0.1		✓
Chloroform	mg/L	28	0.0170	ND	0.0040	0.0001	0.4		✓
Dibromochloromethane	mg/L	28	0.0210	0.0028	0.0075	0.0001	0.15		✓
THMs Ratio		28	0.66	0.06	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 2008)
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	✓
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	✓
Xylenes (total)	mg/L	12	ND	ND	ND	0.0001	0.6	0.02	✓
Styrene	mg/L	12	ND	ND	ND	0.0001	0.03	0.004	✓
Tetrachloroethene	mg/L	12	ND	ND	ND	0.0001	0.05		✓
Toluene	mg/L	12	ND	ND	ND	0.0001	0.8	0.03	✓
1,2-dichloroethene (cis + trans)	mg/L	12	ND	ND	ND	0.0001	0.06		✓
Trichloroethene	mg/L	12	ND	ND	ND	0.0001	0.02		✓