

# ANNUAL WATER QUALITY REPORT 2016-2017

## 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	7	ND	ND	ND	0.0001			
2,4-Dichlorophenoxyacetic acid (2,4-BD)	mg/L	7	ND	ND	ND	0.0001			
4-(2,4-dichlorophenoxy)l butanoic (2,4-DB)	mg/L	7	ND	ND	ND	0.0001			
Bentazone	mg/L	7	ND	ND	ND	0.0001			
Dichlorprop	mg/L	7	ND	ND	ND	0.0001	0.1		√
MCPA	mg/L	7	ND	ND	ND	0.0001	0.002		√
Mecoprop	mg/L	7	ND	ND	ND	0.0001	0.01		√
Picloram	mg/L	7	ND	ND	ND	0.0001	0.2		√
Triclopyr	mg/L	7	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	38	0.020	0.010	0.020	0.002			
Alkalinity (Total)	mg/L CaCO <sub>3</sub>	52	21	14	17	1			
Aluminium	mg/L	52	0.025	0.016	0.021	0.005		0.1	
Bromate	mg/L	7	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	7	0.03	ND	0.02	0.01			
Calcium	mg/L	28	11.0	6.6	7.7	0.01			
Calcium Hardness	mg/L	28	27	16	19	0.025			
Chlorate	mg/L	7	ND	ND	ND	0.01	0.8		√
Chloride	mg/L	7	14.00	11.00	12.86	0.02		250	
Chlorine Residual	mg/L	365	1.54	0.86	1.23	0.02	5	0.6-1.0	√
Chlorite	mg/L	7	ND	ND	ND	0.005	0.8		√
Colour	Hazen Units	27	ND	ND	ND	5		10	
Conductivity	mS/cm	13	12.4	10.2	11.0	0.5			
Cyanide	mg/L	7	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	52	0.8	0.06	0.7	0.02	1.5		√
Iodide	mg/L	7	0.005	ND	0.003	0.002			
Iron (Total)	mg/L	52	0.015	0.007	0.011	0.002		0.2	
Magnesium	mg/L	28	1.60	1.10	1.44	0.001			
Magnesium Hardness	mg/L	28	6.600	4.400	5.971	0.0041			
Manganese	mg/L	52	0.0330	0.0010	0.0070	0.0005	0.4	0.04	√
pH	pH Units	365	8.7	6.7	7.8	0.1		7.0-8.5	
Potassium	mg/L	7	1.2	1.1	1.1	0.1			
Silicon	mg/L	7	15.0	12.0	14.0	0.1			
Sodium	mg/L	7	9.1	7.4	8.5	0.1		200	
Sulphate	mg/L	7	17.0	7.4	9.3	0.02		250	
Suspended Solids	mg/L	27	0.6	ND	0.1	0.2			
Total Hardness	mg/L	28	32.00	22.00	25.25	0.029		200	
Total Organic Carbon TOC	mg/L	13	1.3	0.70	1.0	0.1			
Turbidity	NTU	365	0.8	ND	0.2	0.1		2.5	

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	7	ND	ND	ND	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	7	0.009	0.005	0.007	0.005			
Nitrate	mg/L as NO <sub>3</sub>	7	0.408	0.213	0.320	0.002	50		√
Nitrite	mg/L as NO <sub>2</sub>	7	0.007	ND	ND	0.002	0.20		√
TKN (Total Kjeldahl Nitrogen)	mg/L N	7	ND	ND	ND	0.1			
Total Phosphorus	mg/L	7	0.013	ND	0.008	0.005			

Plasticizers									
bis (2-ethylhexyl) adipate	µg/L	7	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	7	ND	ND	ND	2	9		√

Polycyclic Aromatic Hydrocarbons									
Benzo(a)pyrene	µg/L	7	ND	ND	ND	0.1	0.7		√

Semi Volatile Organic Compounds									
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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	7	ND	ND	ND	0.01	0.04		√
Chlordane	µg/L	7	ND	ND	ND	0.01	0.2		√
Lindane	µg/L	7	ND	ND	ND	0.01	2		√
Heptachlor	µg/L	7	ND	ND	ND	0.01			
Heptachlor epoxide	µg/L	7	ND	ND	ND	0.01			
Hexachlorobenzene	µg/L	7	ND	ND	ND	0.1			
Methoxychlor	µg/L	7	ND	ND	ND	0.2	20		√
Permethrin (cis + trans)	µg/L	7	ND	ND	ND	0.2			
DDT + isomers	µg/L	7	ND	ND	ND	0.2	1		√
Procymidone	µg/L	7	ND	ND	ND	0.2	700		√
Organonitrogen Herbicides									
Alachlor	µg/L	7	ND	ND	ND	0.2	20		√
Atrazine	µg/L	7	ND	ND	ND	0.1	2		√
Metolachlor	µg/L	7	ND	ND	ND	0.1	10		√
Molinate	µg/L	7	ND	ND	ND	0.1	7		√
Pendimethalin	µg/L	7	ND	ND	ND	0.2	20		√
Propanil	µg/L	7	ND	ND	ND	0.1			
Simazine	µg/L	7	ND	ND	ND	0.1	2		√
Terbutylazine	µg/L	7	ND	ND	ND	0.2	8		√
Trifluralin	µg/L	7	ND	ND	ND	0.2	30		√
Organophosphorus Pesticides									
Chlorpyrifos	µg/L	7	ND	ND	ND	0.2	40		√
Diazinon	µg/L	7	ND	ND	ND	0.1			
Pyrimiphos methyl	µg/L	7	ND	ND	ND	0.2	100		√

Trace Elements									
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Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
Antimony	mg/L	7	0.0017	ND	0.0003	0.001	0.02		√
Arsenic	mg/L	7	0.0002	ND	0.0002	0.0001	0.01		√
Barium	mg/L	7	0.0100	0.0061	0.0073	0.0002	0.7		√
Boron	mg/L	7	0.013	ND	0.008	0.005	1.4		√
Cadmium	mg/L	7	ND	ND	ND	0.00005	0.004		√
Chromium	mg/L	7	0.0006	ND	0.0002	0.0001	0.05		√
Copper	mg/L	7	0.0008	ND	0.0004	0.0002	2		√
Lead	mg/L	7	ND	ND	ND	0.0001	0.01		√
Lithium	mg/L	7	0.0007	ND	0.0005	0.0001			
Mercury	mg/L	5	ND	ND	ND	0.00005	0.007		√
Molybdenum	mg/L	7	ND	ND	ND	0.0003	0.07		√
Nickel	mg/L	7	0.0001	ND	ND	0.0001	0.08		√
Selenium	mg/L	7	ND	ND	ND	0.0005	0.01		√
Zinc	mg/L	7	0.002	ND	ND	0.001		1.5	

Trihalomethanes									
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Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
Bromodichloromethane	mg/L	52	0.0140	0.0024	0.0050	0.0001	0.06		√
Bromoform	mg/L	52	0.0040	ND	0.0007	0.0001	0.1		√
Chloroform	mg/L	52	0.0190	0.0022	0.0058	0.0001	0.4		√
Dibromochloromethane	mg/L	52	0.0076	0.0018	0.0042	0.0001	0.15		√
THMs Ratio		52	0.33	0.06	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	7	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	7	ND	ND	ND	0.0001			
1,2,4-trichlorobenzene	mg/L	7	ND	ND	ND	0.0001			
1,2-dichlorobenzene	mg/L	7	ND	ND	ND	0.0001	1.5	0.001	√
1,2-dichloroethane	mg/L	7	ND	ND	ND	0.0001	0.03		√
1,4-dichlorobenzene	mg/L	7	ND	ND	ND	0.0001	0.4	0.0003	√
Benzene	mg/L	7	ND	ND	ND	0.0001	0.01		√
Carbon tetrachloride	mg/L	7	ND	ND	ND	0.0001			
Ethylbenzene	mg/L	7	ND	ND	ND	0.0001	0.3	0.002	√
Xylenes (total)	mg/L	7	ND	ND	ND	0.0001	0.6	0.02	√
Styrene	mg/L	7	ND	ND	ND	0.0001	0.03	0.004	√
Tetrachloroethene	mg/L	7	ND	ND	ND	0.0001	0.05		√
Toluene	mg/L	7	ND	ND	ND	0.0001	0.8	0.03	√
1,2-dichloroethene (cis + trans)	mg/L	7	ND	ND	ND	0.0001	0.06		√
Trichloroethene	mg/L	7	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	6	ND	ND	ND	0.0001			
2,4-Dichlorophenoxyacetic acid (2,4-BD)	mg/L	6	ND	ND	ND	0.0001			
4-(2,4-dichlorophenoxy) butanoic (2,4-DB)	mg/L	6	ND	ND	ND	0.0001			
Bentazone	mg/L	6	ND	ND	ND	0.0001			
Dichlorprop	mg/L	6	ND	ND	ND	0.0001	0.1		✓
MCPA	mg/L	6	ND	ND	ND	0.0001	0.002		✓
Mecoprop	mg/L	6	ND	ND	ND	0.0001	0.01		✓
Picloram	mg/L	6	ND	ND	ND	0.0001	0.2		✓
Triclopyr	mg/L	6	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	37*	0.021	0.011	0.016	0.002			
Alkalinity (Total)	mg/L CaCO <sub>3</sub>	49*	20	14	17	1			
Aluminium	mg/L	49*	0.027	0.015	0.020	0.005		0.1	
Bromate	mg/L	6	ND	ND	ND	0.005	0.01		✓
Bromide	mg/L	6	0.02	ND	0.01	0.01			
Calcium	mg/L	25*	11.0	6.6	7.8	0.01			
Calcium Hardness	mg/L	25*	27	16	20	0.025			
Chlorate	mg/L	6	ND	ND	ND	0.01	0.8		✓
Chloride	mg/L	6	14.00	11.00	12.83	0.02		250	
Chlorine Residual	mg/L	344*	1.50	0.81	1.15	0.02	5	0.6-1.0	✓
Chlorite	mg/L	6	ND	ND	ND	0.005	0.8		✓
Colour	Hazen Units	24*	ND	ND	ND	5		10	
Conductivity	mS/cm	12	12.3	10.2	11.0	0.5			
Cyanide	mg/L	6	ND	ND	ND	0.005	0.6		✓
Fluoride	mg/L	49*	0.79	0.03	0.68	0.02	1.5		✓
Iodide	mg/L	6	0.008	0.003	0.005	0.002			
Iron (Total)	mg/L	49*	0.019	0.006	0.009	0.002		0.2	
Magnesium	mg/L	25*	1.6	1.1	1.4	0.001			
Magnesium Hardness	mg/L	25*	6.5	4.5	5.9	0.0041			
Manganese	mg/L	49*	0.0094	0.0012	0.0039	0.0005	0.4	0.04	✓
pH	pH Units	344*	8.7	7.2	7.9	0.1		7.0-8.5	
Potassium	mg/L	6	1.2	1.0	1.1	0.1			
Silicon	mg/L	6	15.0	12.0	14.2	0.1			
Sodium	mg/L	6	9.1	7.6	8.5	0.1		200	
Sulphate	mg/L	6	17.00	7.30	9.45	0.02		250	
Suspended Solids	mg/L	24*	0.20	ND	ND	0.20			
Total Hardness	mg/L	25*	32	22	25	0.029		200	
Total Organic Carbon TOC	mg/L	12	1.2	0.7	1.0	0.1			
Turbidity	NTU	344*	0.9	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	344*	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	6	ND	ND	ND	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	6	0.008	0.01	0.006	0.005			
Nitrate	mg/L	6	0.408	0.204	0.310	0.002	50		✓
Nitrite	mg/L as NO <sub>2</sub>	6	ND	ND	ND	0.002	0.20		✓
TKN (Total Kjeldahl Nitrogen)	mg/L N	6	ND	ND	ND	0.1			
Total Phosphorus	mg/L	6	0.010	0.01	0.010	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	6	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	6	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	6	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	6	ND	ND	ND	0.01	0.04		√
Chlordane	µg/L	6	ND	ND	ND	0.01	0.2		√
Lindane	µg/L	6	ND	ND	ND	0.01	2		√
Heptachlor	µg/L	6	ND	ND	ND	0.01			
Heptachlor epoxide	µg/L	6	ND	ND	ND	0.01			
Hexachlorobenzene	µg/L	6	ND	ND	ND	0.1			
Methoxychlor	µg/L	6	ND	ND	ND	0.2	20		√
Permethrin (cis + trans)	µg/L	6	ND	ND	ND	0.2			
DDT + isomers	µg/L	6	ND	ND	ND	0.2	1		√
Procymidone	µg/L	6	ND	ND	ND	0.2	700		√
Organonitrogen Herbicides									
Alachlor	µg/L	6	ND	ND	ND	0.2	20		√
Atrazine	µg/L	6	ND	ND	ND	0.1	2		√
Metolachlor	µg/L	6	ND	ND	ND	0.1	10		√
Molinate	µg/L	6	ND	ND	ND	0.1	7		√
Pendimethalin	µg/L	6	ND	ND	ND	0.2	20		√
Propanil	µg/L	6	ND	ND	ND	0.1			
Simazine	µg/L	6	ND	ND	ND	0.1	2		√
Terbutylazine	µg/L	6	ND	ND	ND	0.2	8		√
Trifluralin	µg/L	6	ND	ND	ND	0.2	30		√
Organophosphorus Pesticides									
Chlorpyrifos	µg/L	6	ND	ND	ND	0.2	40		√
Diazinon	µg/L	6	ND	ND	ND	0.1			
Pirymiphos methyl	µg/L	6	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	6	ND	ND	ND	0.001	0.02		√
Arsenic	mg/L	6	0.0002	ND	0.0002	0.0001	0.01		√
Barium	mg/L	6	0.0098	0.0060	0.0073	0.0002	0.7		√
Boron	mg/L	6	0.013	ND	0.007	0.005	1.4		√
Cadmium	mg/L	6	ND	ND	ND	0.00005	0.004		√
Chromium	mg/L	6	0.0009	ND	0.0003	0.0001	0.05		√
Copper	mg/L	6	0.0007	ND	0.0003	0.0002	2		√
Lead	mg/L	6	ND	ND	ND	0.0001	0.01		√
Lithium	mg/L	6	0.0007	ND	0.0004	0.0001			
Mercury	mg/L	6	ND	ND	ND	0.00005	0.007		√
Molybdenum	mg/L	6	ND	ND	ND	0.0003	0.07		√
Nickel	mg/L	6	ND	ND	ND	0.0001	0.08		√
Selenium	mg/L	6	ND	ND	ND	0.0005	0.01		√
Zinc	mg/L	6	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	49*	0.0160	0.0029	0.0074	0.0001	0.06		√
Bromoform	mg/L	49*	0.0041	ND	0.0008	0.0001	0.1		√
Chloroform	mg/L	49*	0.0160	0.0024	0.0076	0.0001	0.4		√
Dibromochloromethane	mg/L	49*	0.0120	0.0026	0.0057	0.0001	0.15		√
THMs Ratio		49*	0.39	0.07	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	6	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	6	ND	ND	ND	0.0001			
1,2,4-trichlorobenzene	mg/L	6	ND	ND	ND	0.0001			
1,2-dichlorobenzene	mg/L	6	ND	ND	ND	0.0001	1.5	0.001	√
1,2-dichloroethane	mg/L	6	ND	ND	ND	0.0001	0.03		√
1,4-dichlorobenzene	mg/L	6	ND	ND	ND	0.0001	0.4	0.0003	√
Benzene	mg/L	6	ND	ND	ND	0.0001	0.01		√
Carbon tetrachloride	mg/L	6	ND	ND	ND	0.0001			
Ethylbenzene	mg/L	6	ND	ND	ND	0.0001	0.3	0.002	√
Xylenes (total)	mg/L	6	ND	ND	ND	0.0001	0.6	0.02	√
Styrene	mg/L	6	ND	ND	ND	0.0001	0.03	0.004	√
Tetrachloroethene	mg/L	6	ND	ND	ND	0.0001	0.05		√
Toluene	mg/L	6	ND	ND	ND	0.0001	0.8	0.03	√
1,2-dichloroethene (cis + trans)	mg/L	6	ND	ND	ND	0.0001	0.06		√
Trichloroethene	mg/L	6	ND	ND	ND	0.0001	0.02		√

\*In 2016/17, the Ardmore WTP B1 block was shut down for maintenance. While the B1 block of the Ardmore WTP was out of service for 21 days, the scheduled daily and weekly sampling was not carried out as the tank was emptied.

## 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	7	ND	ND	ND	0.0001			
2,4-Dichlorophenoxyacetic acid (2,4-BD)	mg/L	7	ND	ND	ND	0.0001			
4-(2,4-dichlorophenoxy) butanoic (2,4-DB)	mg/L	7	ND	ND	ND	0.0001			
Bentazone	mg/L	7	ND	ND	ND	0.0001			
Dichlorprop	mg/L	7	ND	ND	ND	0.0001	0.1		✓
MCPA	mg/L	7	ND	ND	ND	0.0001	0.002		✓
Mecoprop	mg/L	7	ND	ND	ND	0.0001	0.01		✓
Picloram	mg/L	7	ND	ND	ND	0.0001	0.2		✓
Triclopyr	mg/L	7	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	38	0.023	0.010	0.015	0.002			
Alkalinity (Total)	mg/L CaCO <sub>3</sub>	52	20	14	17	1			
Aluminium	mg/L	52	0.040	0.015	0.020	0.005		0.1	
Bromate	mg/L	7	ND	ND	ND	0.005	0.01		✓
Bromide	mg/L	7	0.02	ND	0.02	0.01			
Calcium	mg/L	28	11.0	6.5	7.6	0.01			
Calcium Hardness	mg/L	28	27	16	19	0.025			
Chlorate	mg/L	7	ND	ND	ND	0.01	0.8		✓
Chloride	mg/L	7	14.00	11.00	12.86	0.02		250	
Chlorine Residual	mg/L	365	1.38	0.78	1.15	0.02	5	0.6-1.0	✓
Chlorite	mg/L	7	ND	ND	ND	0.005	0.8		✓
Colour	Hazen Units	27	ND	ND	ND	5		10	
Conductivity	mS/cm	13	12.4	10.2	11.0	0.5			
Cyanide	mg/L	7	ND	ND	ND	0.005	0.6		✓
Fluoride	mg/L	52	0.79	0.03	0.68	0.02	1.5		✓
Iodide	mg/L	7	0.006	ND	0.003	0.002			
Iron (Total)	mg/L	52	0.051	0.007	0.011	0.002		0.2	
Magnesium	mg/L	28	1.6	1.1	1.4	0.001			
Magnesium Hardness	mg/L	28	7	4	6	0.0041			
Manganese	mg/L	52	ND	ND	ND	0.0005	0.4	0.04	✓
pH	pH Units	365	8.6	7.3	7.9	0.1		7.0-8.5	
Potassium	mg/L	7	1.2	1.0	1.1	0.1			
Silicon	mg/L	7	15.0	12.0	14.0	0.1			
Sodium	mg/L	7	8.9	7.3	8.4	0.1		200	
Sulphate	mg/L	7	17.00	7.30	9.20	0.02		250	
Suspended Solids	mg/L	27	0.5	ND	ND	0.2			
Total Hardness	mg/L	28	32	22	25	0.029		200	
Total Organic Carbon TOC	mg/L	13	1.7	0.8	1.1	0.1			
Turbidity	NTU	365	0.9	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	7	ND	ND	ND	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	7	0.008	0.01	0.007	0.005			
Nitrate	mg/L	7	0.412	0.204	0.315	0.002	50		✓
Nitrite	mg/L as NO <sub>2</sub>	7	ND	ND	ND	0.002	0.20		✓
TKN (Total Kjeldahl Nitrogen)	mg/L N	7	ND	ND	ND	0.1			
Total Phosphorus	mg/L	7	0.013	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	7	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	7	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	7	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	7	ND	ND	ND	0.01	0.04		√
Chlordane	µg/L	7	ND	ND	ND	0.01	0.2		√
Lindane	µg/L	7	ND	ND	ND	0.01	2		√
Heptachlor	µg/L	7	ND	ND	ND	0.01			
Heptachlor epoxide	µg/L	7	ND	ND	ND	0.01			
Hexachlorobenzene	µg/L	7	ND	ND	ND	0.1			
Methoxychlor	µg/L	7	ND	ND	ND	0.2	20		√
Permethrin (cis + trans)	µg/L	7	ND	ND	ND	0.2			
DDT + isomers	µg/L	7	ND	ND	ND	0.2	1		√
Procymidone	µg/L	7	ND	ND	ND	0.2	700		√
Organonitrogen Herbicides									
Alachlor	µg/L	7	ND	ND	ND	0.2	20		√
Atrazine	µg/L	7	ND	ND	ND	0.1	2		√
Metolachlor	µg/L	7	ND	ND	ND	0.1	10		√
Molinate	µg/L	7	ND	ND	ND	0.1	7		√
Pendimethalin	µg/L	7	ND	ND	ND	0.2	20		√
Propanil	µg/L	7	ND	ND	ND	0.1			
Simazine	µg/L	7	ND	ND	ND	0.1	2		√
Terbutylazine	µg/L	7	ND	ND	ND	0.2	8		√
Trifluralin	µg/L	7	ND	ND	ND	0.2	30		√
Organophosphorus Pesticides									
Chlorpyrifos	µg/L	7	ND	ND	ND	0.2	40		√
Diazinon	µg/L	7	ND	ND	ND	0.1			
Pyrimphos methyl	µg/L	7	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	7	ND	ND	ND	0.001	0.02		√
Arsenic	mg/L	7	0.0002	ND	0.0002	0.0001	0.01		√
Barium	mg/L	7	0.0098	0.0063	0.0072	0.0002	0.7		√
Boron	mg/L	7	0.012	ND	0.008	0.005	1.4		√
Cadmium	mg/L	7	ND	ND	ND	0.00005	0.004		√
Chromium	mg/L	7	0.0009	ND	0.0001	0.0001	0.05		√
Copper	mg/L	7	0.0007	ND	0.0003	0.0002	2		√
Lead	mg/L	7	ND	ND	ND	0.0001	0.01		√
Lithium	mg/L	7	0.0007	ND	0.0005	0.0001			
Mercury	mg/L	5	ND	ND	ND	0.00005	0.007		√
Molybdenum	mg/L	7	ND	ND	ND	0.0003	0.07		√
Nickel	mg/L	7	0.0009	ND	ND	0.0001	0.08		√
Selenium	mg/L	7	ND	ND	ND	0.0005	0.01		√
Zinc	mg/L	7	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	0.0036	0.0072	0.0001	0.06		√
Bromoform	mg/L	52	0.0030	ND	0.0008	0.0001	0.1		√
Chloroform	mg/L	52	0.0150	0.0028	0.0075	0.0001	0.4		√
Dibromochloromethane	mg/L	52	0.0096	0.0024	0.0056	0.0001	0.15		√
THMs Ratio		52	0.31	0.09	0.18		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	7	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	7	ND	ND	ND	0.0001			
1,2,4-trichlorobenzene	mg/L	7	ND	ND	ND	0.0001			
1,2-dichlorobenzene	mg/L	7	ND	ND	ND	0.0001	1.5	0.001	√
1,2-dichloroethane	mg/L	7	ND	ND	ND	0.0001	0.03		√
1,4-dichlorobenzene	mg/L	7	ND	ND	ND	0.0001	0.4	0.0003	√
Benzene	mg/L	7	ND	ND	ND	0.0001	0.01		√
Carbon tetrachloride	mg/L	7	ND	ND	ND	0.0001			
Ethylbenzene	mg/L	7	ND	ND	ND	0.0001	0.3	0.002	√
Xylenes (total)	mg/L	7	ND	ND	ND	0.0001	0.6	0.02	√
Styrene	mg/L	7	ND	ND	ND	0.0001	0.03	0.004	√
Tetrachloroethene	mg/L	7	ND	ND	ND	0.0001	0.05		√
Toluene	mg/L	7	ND	ND	ND	0.0001	0.8	0.03	√
1,2-dichloroethene (cis + trans)	mg/L	7	ND	ND	ND	0.0001	0.06		√
Trichloroethene	mg/L	7	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	4	ND	ND	ND	0.0001			
2,4-Dichlorophenoxyacetic acid (2,4-BD)	mg/L	4	ND	ND	ND	0.0001			
4-(2,4-dichlorophenoxy) butanoic (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)
Alkalinity (Total)	mg/L CaCO <sub>3</sub>	1	75	75	75	1			
Aluminium	mg/L	4	0.022	ND	0.007	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	12.0	13.3	0.01			
Calcium Hardness	mg/L	4	35	30	33	0.025			
Chlorate	mg/L	1	ND	ND	ND	0.01	0.8		✓
Chloride	mg/L	1	78.00	78.00	78.00	0.02		250	
Chlorine Residual	mg/L	123	1.15	0.62	0.87	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	42.1	42.1	42.1	0.5			
Fluoride	mg/L	1	0.04	0.04	0.04	0.02	1.5		✓
Iodide	mg/L	1	0.008	0.008	0.008	0.002			
Iron (Total)	mg/L	4	0.021	ND	0.006	0.002		0.2	
Magnesium	mg/L	4	14.0	12.0	13.3	0.001			
Magnesium Hardness	mg/L	4	58	48	54	0.0041			
Manganese	mg/L	4	0.0007	ND	ND	0.0005	0.4	0.04	✓
pH	pH Units	123	8.0	6.8	7.6	0.1		7.0-8.5	
Potassium	mg/L	1	1.5	1.5	1.5	0.1			
Silicon	mg/L	1	40.0	40.0	40.0	0.1			
Sodium	mg/L	1	46.0	46.0	46.0	0.1		200	
Sulphate	mg/L	1	0.03	0.03	0.03	0.02		250	
Suspended Solids	mg/L	1	ND	ND	ND	0.2			
Total Dissolved Solids	mg/L	1	290	290	290	15		1000	
Total Hardness	mg/L	4	93	77	87	0.029		200	
Total Organic Carbon TOC	mg/L	13	0.5	ND	0.3	0.1			
Turbidity	NTU	123	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	123	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 as NO <sub>3</sub>	53	17.277	2.614	12.152	0.002	50		✓
Nitrite	mg/L as NO <sub>2</sub>	1	ND	ND	ND	0.002	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	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			
Pirymiphos methyl	µg/L	4	ND	ND	ND	0.2	100		✓

### Trace Elements

Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 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	ND	ND	ND	0.0001	0.05		✓
Copper	mg/L	4	0.0014	0.0003	0.0007	0.0002	2		✓
Lead	mg/L	1	ND	ND	ND	0.0001	0.01		✓
Lithium	mg/L	1	0.0004	0.0004	0.0004	0.0001			
Mercury	mg/L	1	ND	ND	ND	0.00005	0.007		✓
Molybdenum	mg/L	1	ND	ND	ND	0.0003	0.07		✓
Nickel	mg/L	1	ND	ND	ND	0.0001	0.08		✓
Selenium	mg/L	1	ND	ND	ND	0.0005	0.01		✓
Zinc	mg/L	1	0.001	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	14	0.0008	ND	0.0001	0.0001	0.06		✓
Bromoform	mg/L	14	0.0013	ND	0.0002	0.0001	0.1		✓
Chloroform	mg/L	14	0.0002	ND	0.0001	0.0001	0.4		✓
Dibromochloromethane	mg/L	14	0.0010	ND	0.0001	0.0001	0.15		✓
THMs Ratio		14	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	2	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	2	ND	ND	ND	0.0001			
1,2,4-trichlorobenzene	mg/L	2	ND	ND	ND	0.0001			
1,2-dichlorobenzene	mg/L	2	ND	ND	ND	0.0001	1.5	0.001	✓
1,2-dichloroethane	mg/L	2	ND	ND	ND	0.0001	0.03		✓
1,4-dichlorobenzene	mg/L	2	ND	ND	ND	0.0001	0.4	0.0003	✓
Benzene	mg/L	2	ND	ND	ND	0.0001	0.01		✓
Carbon tetrachloride	mg/L	2	ND	ND	ND	0.0001			
Ethylbenzene	mg/L	2	ND	ND	ND	0.0001	0.3	0.002	✓
Xylenes (total)	mg/L	2	ND	ND	ND	0.0001	0.6	0.02	✓
Styrene	mg/L	2	ND	ND	ND	0.0001	0.03	0.004	✓
Tetrachloroethene	mg/L	2	ND	ND	ND	0.0001	0.05		✓
Toluene	mg/L	2	ND	ND	ND	0.0001	0.8	0.03	✓
Trichloroethene	mg/L	2	ND	ND	ND	0.0001	0.02		✓

## Cornwall WTP Treated (Waiuku)

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	140	130	133	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	0.06	0.06	0.06	0.01			
Calcium	mg/L	1	33.0	33.0	33.0	0.01			
Calcium Hardness	mg/L	1	81	81	81	0.025			
Chlorate	mg/L	1	ND	ND	ND	0.01	0.8		√
Chloride	mg/L	1	32.00	32.00	32.00	0.02		250	
Chlorine Residual	mg/L	122	1.43	0.45	0.79	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	36.10	36.10	36.10	0.5			
Fluoride	mg/L	1	0.05	0.05	0.05	0.02	1.5		√
Iodide	mg/L	1	0.004	0.004	0.004	0.002			
Iron (Total)	mg/L	13	0.007	ND	0.002	0.002		0.2	
Magnesium	mg/L	1	10.0	10.0	10.0	0.001			
Magnesium Hardness	mg/L	1	42	42	42	0.0041			
Manganese	mg/L	13	0.0024	ND	ND	0.0005	0.4	0.04	√
pH	pH Units	122	8.2	7.9	8.0	0.1		7.0-8.5	
Potassium	mg/L	1	3.4	3.4	3.4	0.1			
Silicon	mg/L	1	53.0	53.0	53.0	0.1			
Sodium	mg/L	1	22.0	22.0	22.0	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	250	250	250	15		1000	
Total Hardness	mg/L	1	120	120	120	0.029		200	
Turbidity	NTU	122	0.6	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	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	1	ND	ND	ND	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	1	0.053	0.053	0.053	0.005			
Nitrate	mg/L as NO <sub>3</sub>	1	0.111	0.111	0.111	0.002	50		√
Nitrite	mg/L as NO <sub>2</sub>	1	ND	ND	ND	0.002	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		✓
Terbutylazine	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	0.0053*	0.0041	0.0045	0.0001	0.01		✓
Barium	mg/L	1	ND	ND	ND	0.0002	0.7		✓
Boron	mg/L	1	ND	ND	ND	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	0.0001	0.05		✓
Copper	mg/L	1	ND	ND	ND	0.0002	2		✓
Lead	mg/L	1	ND	ND	ND	0.0001	0.01		✓
Lithium	mg/L	1	0.0093	0.0093	0.0093	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	0.003	0.003	0.003	0.001		1.5	

\*One treated water sample, taken in August 2016, exceeded half of the MAV set out in the DWSNZ. Arsenic is a naturally occurring compound in the groundwater the bore is abstracting from. Additional sampling is taking place, and remedial measures are being implemented.

Trihalomethanes									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
Bromodichloromethane	mg/L	14	0.0009	ND	0.0003	0.0001	0.06		✓
Bromoform	mg/L	14	0.0014	ND	0.0005	0.0001	0.1		✓
Chloroform	mg/L	14	0.0003	ND	0.0001	0.0001	0.4		✓
Dibromochlorometane	mg/L	14	0.0027	ND	0.0007	0.0001	0.15		✓
THMs Ratio		14	0.04	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	11	ND	ND	ND	0.0001			
2,4-Dichlorophenoxyacetic acid (2,4-BD)	mg/L	11	ND	ND	ND	0.0001			
4-(2,4-dichlorophenoxy) butanoic (2,4-DB)	mg/L	11	ND	ND	ND	0.0001			
Bentazone	mg/L	11	ND	ND	ND	0.0001			
Dichlorprop	mg/L	11	ND	ND	ND	0.0001	0.1		√
MCPA	mg/L	11	ND	ND	ND	0.0001	0.002		√
Mecoprop	mg/L	11	ND	ND	ND	0.0001	0.01		√
Picloram	mg/L	11	ND	ND	ND	0.0001	0.2		√
Triclopyr	mg/L	11	ND	ND	ND	0.0001	0.1		√

Chemical and Physical									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
Alkalinity (Total)	mg/L CaCO <sub>3</sub>	37	90	27	56	1			
Aluminium	mg/L	37	0.050	0.010	0.020	0.005		0.1	
Bromate	mg/L	2	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	2	0.04	0.01	0.02	0.01			
Calcium	mg/L	10	20	9	14	0.01			
Calcium Hardness	mg/L	10	51.00	23.00	34.30	0.025			
Chlorate	mg/L	2	ND	ND	ND	0.01	0.8		√
Chloride	mg/L	2	70.00	41.00	55.50	0.02		250	
Chlorine Residual	mg/L	122	2.10	0.35	1.30	0.02	5	0.6-1.0	√
Chlorite	mg/L	2	0.005	ND	ND	0.005	0.8		√
Colour	Hazen Units	6	ND	ND	ND	5		10	
Conductivity	mS/cm	13	63.4	31.5	40.4	0.5			
Cyanide	mg/L	2	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	13	0.06	ND	0.03	0.02	1.5		√
Iodide	mg/L	2	0.004	ND	0.002	0.002			
Iron (Total)	mg/L	10	0.003	ND	ND	0.002		0.2	
Magnesium	mg/L	10	17.0	6.3	10.8	0.001			
Magnesium Hardness	mg/L	10	68	26	44.4	0.0041			
Manganese	mg/L	10	0.0590	0.0005	0.0088	0.0005	0.4	0.04	√
pH	pH Units	122	8.4	6.8	7.3	0.1		7.0-8.5	
Potassium	mg/L	1	2.2	2.2	2.2	0.1			
Silicon	mg/L	1	24.0	24.0	24.0	0.1			
Sodium	mg/L	1	55.0	55.0	55.0	0.1		200	
Sulphate	mg/L	6	41.00	13.00	32.50	0.02		250	
Suspended Solids	mg/L	10	0.20	ND	ND	0.2			
Total Dissolved Solids	mg/L	10	340	170	259	15		1000	
Total Hardness	mg/L	10	120	49	79	0.029		200	
Total Organic Carbon TOC	mg/L	37	3.5	1.4	2.0	0.1			
Turbidity	NTU	122	0.35	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	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	2	0.007	ND	0.004	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	9	0.007	ND	0.005	0.005			
Nitrate	mg/L as NO <sub>3</sub>	9	0.443	0.075	0.199	0.002	50		√
Nitrite	mg/L as NO <sub>2</sub>	9	0.013	ND	ND	0.002	0.20		√
TKN (Total Kjeldahl Nitrogen)	mg/L N	2	0.1	ND	0.1	0.1			
Total Phosphorus	mg/L	9	0.010	0.004	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	8	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	8	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	8	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	8	ND	ND	ND	0.01	0.04		✓
Chlordane	µg/L	8	ND	ND	ND	0.01	0.2		✓
Lindane	µg/L	8	ND	ND	ND	0.01	2		✓
Heptachlor	µg/L	8	ND	ND	ND	0.01			
Heptachlor epoxide	µg/L	8	ND	ND	ND	0.01			
Hexachlorobenzene	µg/L	8	ND	ND	ND	0.1			
Methoxychlor	µg/L	8	ND	ND	ND	0.2	20		✓
Permethrin (cis + trans)	µg/L	8	ND	ND	ND	0.2			
DDT + isomers	µg/L	8	ND	ND	ND	0.2	1		✓
Procymidone	µg/L	8	ND	ND	ND	0.2	700		✓
Organonitrogen Herbicides									
Alachlor	µg/L	8	ND	ND	ND	0.2	20		✓
Atrazine	µg/L	8	ND	ND	ND	0.1	2		✓
Metolachlor	µg/L	8	ND	ND	ND	0.1	10		✓
Molinate	µg/L	8	ND	ND	ND	0.1	7		✓
Pendimethalin	µg/L	8	ND	ND	ND	0.2	20		✓
Propanil	µg/L	8	ND	ND	ND	0.1			
Simazine	µg/L	8	ND	ND	ND	0.1	2		✓
Terbutylazine	µg/L	8	ND	ND	ND	0.2	8		✓
Trifluralin	µg/L	8	ND	ND	ND	0.2	30		✓
Organophosphorus Pesticides									
Chlorpyrifos	µg/L	8	ND	ND	ND	0.2	40		✓
Diazinon	µg/L	8	ND	ND	ND	0.1			
Pyrimphos methyl	µg/L	8	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	9	0.0003	0.0001	0.0002	0.0001	0.01		✓
Barium	mg/L	1	0.0250	0.0250	0.0250	0.0002	0.7		✓
Boron	mg/L	1	0.027	0.027	0.027	0.005	1.4		✓
Cadmium	mg/L	1	ND	ND	ND	0.00005	0.004		✓
Chromium	mg/L	1	ND	ND	ND	0.0001	0.05		✓
Copper	mg/L	1	0.00048	0.0005	0.0005	0.0002	2		✓
Lead	mg/L	1	ND	ND	ND	0.0001	0.01		✓
Lithium	mg/L	1	0.0032	0.0032	0.0032	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	0.0003	0.0003	0.0003	0.0001	0.08		✓
Selenium	mg/L	1	ND	ND	ND	0.0005	0.01		✓
Zinc	mg/L	1	0.0013	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	0.0140	0.0049	0.0081	0.0001	0.06		√
Bromoform	mg/L	13	0.0098	0.0025	0.0052	0.0001	0.1		√
Chloroform	mg/L	13	0.0088	0.0010	0.0046	0.0001	0.4		√
Dibromochloromethane	mg/L	13	0.0190	0.0075	0.0112	0.0001	0.15		√
THMs Ratio		13	0.44	0.18	0.27		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	10	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	10	ND	ND	ND	0.0001			
1,2,4-trichlorobenzene	mg/L	10	ND	ND	ND	0.0001			
1,2-dichlorobenzene	mg/L	10	ND	ND	ND	0.0001	1.5	0.001	√
1,2-dichloroethane	mg/L	10	ND	ND	ND	0.0001	0.03		√
1,4-dichlorobenzene	mg/L	10	ND	ND	ND	0.0001	0.4	0.0003	√
Benzene	mg/L	10	ND	ND	ND	0.0001	0.01		√
Carbon tetrachloride	mg/L	10	ND	ND	ND	0.0001			
Ethylbenzene	mg/L	10	ND	ND	ND	0.0001	0.3	0.002	√
Xylenes (total)	mg/L	10	ND	ND	ND	0.0001	0.6	0.02	√
Styrene	mg/L	10	ND	ND	ND	0.0001	0.03	0.004	√
Tetrachloroethene	mg/L	10	ND	ND	ND	0.0001	0.05		√
Toluene	mg/L	10	ND	ND	ND	0.0001	0.8	0.03	√
1,2-dichloroethene (cis + trans)	mg/L	10	ND	ND	ND	0.0001	0.06		√
Trichloroethene	mg/L	10	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	7	ND	ND	ND	0.0001			
2,4-Dichlorophenoxyacetic acid (2,4-BD)	mg/L	7	ND	ND	ND	0.0001			
4-(2,4-dichlorophenoxy) butanoic (2,4-DB)	mg/L	7	ND	ND	ND	0.0001			
Bentazone	mg/L	7	ND	ND	ND	0.0001			
Dichlorprop	mg/L	7	ND	ND	ND	0.0001	0.1		✓
MCPA	mg/L	7	ND	ND	ND	0.0001	0.002		✓
Mecoprop	mg/L	7	ND	ND	ND	0.0001	0.01		✓
Picloram	mg/L	7	ND	ND	ND	0.0001	0.2		✓
Triclopyr	mg/L	7	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	0.037	0.012	0.018	0.002			
Alkalinity (Total)	mg/L CaCO <sub>3</sub>	52	22	11	16	1			
Aluminium	mg/L	52	0.120	0.016	0.026	0.005		0.1	
Bromate	mg/L	7	ND	ND	ND	0.005	0.01		✓
Bromide	mg/L	7	0.04	ND	0.02	0.01			
Calcium	mg/L	28	12.0	8.0	9.5	0.01			
Calcium Hardness	mg/L	28	31	20	24	0.025			
Chlorate	mg/L	7	ND	ND	ND	0.01	0.8		✓
Chloride	mg/L	7	23.00	17.00	21.29	0.02		250	
Chlorine Residual	mg/L	365	1.90	0.69	1.00	0.02	5	0.6-1.0	✓
Chlorite	mg/L	7	ND	ND	ND	0.005	0.8		✓
Colour	Hazen Units	27	ND	ND	ND	5		10	
Conductivity	mS/cm	27	16.7	13.8	15.1	0.5			
Cyanide	mg/L	7	ND	ND	ND	0.005	0.6		✓
Fluoride	mg/L	52	0.81	0.47	0.68	0.02	1.5		✓
Iodide	mg/L	4	0.004	ND	0.003	0.002			
Iron (Total)	mg/L	52	0.540	0.008	0.022	0.002		0.2	
Magnesium	mg/L	28	2.9	1.7	2.5	0.001			
Magnesium Hardness	mg/L	28	12	7	10	0.0041			
Manganese	mg/L	52	0.0990	0.0016	0.0054	0.0005	0.4	0.04	✓
pH	pH Units	365	8.4	6.9	7.7	0.1		7.0-8.5	
Potassium	mg/L	7	0.9	0.8	0.8	0.1			
Silicon	mg/L	7	16.0	12.0	13.7	0.1			
Sodium	mg/L	7	13.0	11.0	12.1	0.1		200	
Sulphate	mg/L	7	22.00	14.00	16.14	0.02		250	
Suspended Solids	mg/L	26	1.7	ND	0.2	0.2			
Total Hardness	mg/L	28	40	29	34	0.029		200	
Total Organic Carbon TOC	mg/L	27	2.1	1.0	1.3	0.1			
Turbidity	NTU	365	14.0*	0.1	1.3	0.1		2.5	

\*Intermittent elevated turbidity results were reported by the laboratory between 18/09/2016 and 14/04/2017. 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	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	7	ND	ND	ND	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	7	0.008	ND	0.006	0.005			
Nitrate	mg/L as NO <sub>3</sub>	7	0.226	0.097	0.120	0.002	50		√
Nitrite	mg/L as NO <sub>2</sub>	7	0.008	ND	ND	0.002	0.20		√
TKN (Total Kjeldahl Nitrogen)	mg/L N	7	0.16	ND	ND	0.1			
Total Phosphorus	mg/L	7	0.010	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	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	2	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		√
Terbutylazine	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			
Pyrimiphos methyl	µg/L	1	ND	ND	ND	0.2	100		√

Trace Elements									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
Antimony	mg/L	7	0.001	ND	ND	0.001	0.02		✓
Arsenic	mg/L	7	0.0001	ND	0.0001	0.0001	0.01		✓
Barium	mg/L	7	0.0057	0.0045	0.0053	0.0002	0.7		✓
Boron	mg/L	7	0.014	ND	0.009	0.005	1.4		✓
Cadmium	mg/L	7	ND	ND	ND	0.00005	0.004		✓
Chromium	mg/L	7	0.0006	ND	0.0001	0.0001	0.05		✓
Copper	mg/L	7	0.0027	0.0004	0.0016	0.0002	2		✓
Lead	mg/L	7	ND	ND	ND	0.0001	0.01		✓
Lithium	mg/L	7	0.0006	ND	0.0003	0.0001			
Mercury	mg/L	5	ND	ND	ND	0.00005	0.007		✓
Molybdenum	mg/L	7	ND	ND	ND	0.0003	0.07		✓
Nickel	mg/L	7	0.0002	ND	ND	0.0001	0.08		✓
Selenium	mg/L	7	ND	ND	ND	0.0005	0.01		✓
Zinc	mg/L	7	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	52	0.0098	0.0025	0.0058	0.0001	0.06		✓
Bromoform	mg/L	52	0.0042	ND	0.0017	0.0001	0.1		✓
Chloroform	mg/L	52	0.0120	0.0016	0.0045	0.0001	0.4		✓
Dibromochloromethane	mg/L	52	0.0120	0.0039	0.0070	0.0001	0.15		✓
THMs Ratio		52	0.28	0.09	0.17		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	3	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	3	ND	ND	ND	0.0001			
1,2,4-trichlorobenzene	mg/L	3	ND	ND	ND	0.0001			
1,2-dichlorobenzene	mg/L	3	ND	ND	ND	0.0001	1.5	0.001	✓
1,2-dichloroethane	mg/L	3	ND	ND	ND	0.0001	0.03		✓
1,4-dichlorobenzene	mg/L	3	ND	ND	ND	0.0001	0.4	0.0003	✓
Benzene	mg/L	3	ND	ND	ND	0.0001	0.01		✓
Carbon tetrachloride	mg/L	3	ND	ND	ND	0.0001			
Ethylbenzene	mg/L	3	ND	ND	ND	0.0001	0.3	0.002	✓
Xylenes (total)	mg/L	3	ND	ND	ND	0.0001	0.6	0.02	✓
Styrene	mg/L	3	ND	ND	ND	0.0001	0.03	0.004	✓
Tetrachloroethene	mg/L	3	ND	ND	ND	0.0001	0.05		✓
Toluene	mg/L	3	ND	ND	ND	0.0001	0.8	0.03	✓
1,2-dichloroethene (cis + trans)	mg/L	3	ND	ND	ND	0.0001	0.06		✓
Trichloroethene	mg/L	3	ND	ND	ND	0.0001	0.02		✓

## 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	mg/L	2	ND	ND	ND	0.0001			
2-4-Dichlorophenoxyacetic acid	mg/L	2	ND	ND	ND	0.0001			
4-(2-4-Dichlorophenoxy) butano	mg/L	2	ND	ND	ND	0.0001			
Bentazone	mg/L	2	ND	ND	ND	0.0001			
Dichlorprop	mg/L	2	ND	ND	ND	0.0001	0.1		✓
MCPA	mg/L	2	ND	ND	ND	0.0001	0.002		✓
Mecoprop (MCPP)	mg/L	2	ND	ND	ND	0.0001	0.01		✓
Picloram	mg/L	2	ND	ND	ND	0.0001	0.2		✓
Triclopyr	mg/L	2	ND	ND	ND	0.0001	0.1		✓

Chemical and Physical									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
UV absorbance	Abs units	34	0.046	0.011	0.023	0.002			
Alkalinity (Total)	mg/L CaCO <sub>3</sub>	29	28	19	24	1			
Aluminium	mg/L	30	0.007	ND	ND	0.005		0.1	
Bromate	mg/L	2	ND	ND	ND	0.005	0.01		✓
Bromide	mg/L	2	0.01	0.01	0.01	0.01			
Calcium	mg/L	14	5.4	3.6	4.8	0.01			
Calcium Hardness	mg/L	14	14	9	12	0.025			
Chlorate	mg/L	2	0.30	0.18	0.24	0.01	0.8		✓
Chloride	mg/L	2	29.00	25.00	27.00	0.02		250	
Chlorine Residual	mg/L	122	1.40	0.63	0.96	0.02	5	0.6-1.0	✓
Chlorite	mg/L	2	ND	ND	ND	0.005	0.8		✓
Colour	Hazen Units	7	ND	ND	ND	5		10	
Conductivity	mS/cm	8	17.0	14.0	15.0	0.5			
Cyanide	mg/L	2	ND	ND	ND	0.005	0.6		✓
Fluoride	mg/L	8	0.14	ND	0.02	0.02	1.5		✓
Iodide	mg/L	2	0.004	0.003	0.003	0.002			
Iron (Total)	mg/L	10	0.010	ND	ND	0.002		0.2	
Magnesium	mg/L	14	3.4	2.1	2.9	0.001			
Magnesium Hardness	mg/L	14	14	9	12	0.0041			
Manganese	mg/L	10	ND	ND	ND	0.0005	0.4	0.04	✓
pH	pH Units	122	8.2	7.4	7.8	0.1		7.0-8.5	
Potassium	mg/L	2	1.1	1.0	1.0	0.1			
Silicon	mg/L	2	16.0	15.0	15.5	0.1			
Sodium	mg/L	2	19.0	19.0	19.0	0.1		200	
Sulphate	mg/L	2	4.80	4.50	4.65	0.02		250	
Suspended Solids	mg/L	8	ND	ND	ND	0.2			
Total Hardness	mg/L	14	27	18	24	0.1		200	
Total Organic Carbon TOC	mg/L	13	2.1	1.1	1.6	0.1			
Turbidity	NTU	122	0.45	ND	0.09			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	2	ND	ND	ND	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	2	0.007	0.002	0.005	0.005			
Nitrate	mg/L as NO <sub>3</sub>	2	0.208	0.097	0.153	0.002	50		✓
Nitrite	mg/L as NO <sub>2</sub>	2	ND	ND	ND	0.002	0.20		✓
TKN (Total Kjeldahl Nitrogen)	mg/L N	2	0.2	0.1	0.2	0.1			
Total Phosphorus	mg/L	2	0.013	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	2	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	2	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	2	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	2	ND	ND	ND	0.01	0.04		√
Chlordane	µg/L	2	ND	ND	ND	0.01	0.2		√
Heptachlor	µg/L	2	ND	ND	ND	0.01			
Heptachlor epoxide	µg/L	2	ND	ND	ND	0.01			
Hexachlorobenzene	µg/L	2	ND	ND	ND	0.1			
Methoxychlor	µg/L	2	ND	ND	ND	0.2	20		√
Permethrin (cis + trans)	µg/L	2	ND	ND	ND	0.2			
DDT + isomers	µg/L	2	ND	ND	ND	0.2	1		√
Procymidone	µg/L	2	ND	ND	ND	0.2	700		√
Organonitrogen Herbicides									
Alachlor	µg/L	2	ND	ND	ND	0.2	20		√
Atrazine	µg/L	2	ND	ND	ND	0.1	2		√
Metolachlor	µg/L	2	ND	ND	ND	0.1	10		√
Molinate	µg/L	2	ND	ND	ND	0.1	7		√
Pendimethalin	µg/L	2	ND	ND	ND	0.2	20		√
Propanil	µg/L	2	ND	ND	ND	0.1			
Simazine	µg/L	2	ND	ND	ND	0.1	2		√
Terbutylazine	µg/L	2	ND	ND	ND	0.2	8		√
Trifluralin	µg/L	2	ND	ND	ND	0.2	30		√
Organophosphorus Pesticides									
Chlorpyrifos	µg/L	2	ND	ND	ND	0.2	40		√
Diazinon	µg/L	2	ND	ND	ND	0.1			
Pyrimphos methyl	µg/L	2	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	2	ND	ND	ND	0.001	0.02		√
Arsenic	mg/L	2	ND	ND	ND	0.0001	0.01		√
Barium	mg/L	2	0.0043	0.0034	0.0039	0.0002	0.7		√
Boron	mg/L	2	0.012	0.012	0.012	0.005	1.4		√
Cadmium	mg/L	2	ND	ND	ND	0.00005	0.004		√
Chromium	mg/L	2	0.0008	0.0007	0.0007	0.0001	0.05		√
Copper	mg/L	2	0.0004	0.0002	0.0003	0.0002	2		√
Lead	mg/L	2	ND	ND	ND	0.0001	0.01		√
Lithium	mg/L	2	0.0007	0.0003	0.0005	0.0001			
Molybdenum	mg/L	2	ND	ND	ND	0.0003	0.07		√
Nickel	mg/L	2	0.0003	0.0002	0.0002	0.0001	0.08		√
Selenium	mg/L	2	ND	ND	ND	0.0005	0.01		√
Zinc	mg/L	2	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	14	0.0120	0.0025	0.0071	0.0001	0.06		√
Bromoform	mg/L	14	0.0032	0.0022	0.0025	0.0001	0.1		√
Chloroform	mg/L	14	0.0130	0.0010	0.0058	0.0001	0.4		√
Dibromochloromethane	mg/L	14	0.0110	0.0038	0.0076	0.0001	0.15		√
THMs Ratio		14	0.31	0.11	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	9	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	9	ND	ND	ND	0.0001			
1,2,4-trichlorobenzene	mg/L	9	ND	ND	ND	0.0001			
1,2-dichlorobenzene	mg/L	9	ND	ND	ND	0.0001	1.5	0.001	√
1,2-dichloroethane	mg/L	9	ND	ND	ND	0.0001	0.03		√
1,4-dichlorobenzene	mg/L	9	ND	ND	ND	0.0001	0.4	0.0003	√
Benzene	mg/L	9	ND	ND	ND	0.0001	0.01		√
Carbon tetrachloride	mg/L	9	ND	ND	ND	0.0001			
Ethylbenzene	mg/L	9	ND	ND	ND	0.0001	0.3	0.002	√
Xylenes (total)	mg/L	9	ND	ND	ND	0.0001	0.6	0.02	√
Styrene	mg/L	9	ND	ND	ND	0.0001	0.03	0.004	√
Tetrachloroethene	mg/L	9	ND	ND	ND	0.0001	0.05		√
Toluene	mg/L	9	ND	ND	ND	0.0001	0.8	0.03	√
1,2-dichloroethene (cis + trans)	mg/L	9	ND	ND	ND	0.0001	0.06		√
Trichloroethene	mg/L	9	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	mg/L	4	ND	ND	ND	0.0001			
2-4-Dichlorophenoxyacetic acid	mg/L	4	ND	ND	ND	0.0001			
4-(2-4-Dichlorophenoxy) butano	mg/L	4	ND	ND	ND	0.0001			
Bentazone	mg/L	4	ND	ND	ND	0.0001			
Dichlorprop	mg/L	4	ND	ND	ND	0.0001	0.1		√
MCPA	mg/L	4	ND	ND	ND	0.0001	0.002		√
Mecoprop (MCP)	mg/L	4	ND	ND	ND	0.0001	0.01		√
Picloram	mg/L	4	ND	ND	ND	0.0001	0.2		√
Triclopyr	mg/L	4	ND	ND	ND	0.0001	0.1		√

Chemical and Physical									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
UV absorbance	Abs units	9	0.016	0.003	0.006	0.002			
Alkalinity (Total)	mg/L CaCO <sub>3</sub>	4	76	73	74	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	0.1	0.1	0.1	0.01			
Calcium	mg/L	4	10	7	8	0.01			
Calcium Hardness	mg/L	4	25	17	20	0.025			
Chlorate	mg/L	4	0.30	ND	0.14	0.01	0.8		√
Chloride	mg/L	1	64	64	64	0.02		250	
Chlorine Residual	mg/L	122	1.18	0.47	0.81	0.02	5	0.6-1.0	√
Chlorite	mg/L	4	0.010	ND	ND	0.005	0.8		√
Colour	Hazen Units	1	ND	ND	ND	5		10	
Conductivity	mS/cm	1	39.9	39.9	39.9	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	0.0175	0.0175	0.0175	0.002			
Iron (Total)	mg/L	4	0.015	ND	0.008	0.002		0.2	
Magnesium	mg/L	4	6.1	1.5	4.8	0.001			
Magnesium Hardness	mg/L	4	25	6	20	0.0041			
Manganese	mg/L	4	0.0012	ND	0.0006	0.0005	0.4	0.04	√
pH	pH Units	122	7.6	7.2	7.4	0.1		7.0-8.5	
Potassium	mg/L	1	1.7	1.7	1.7	0.1			
Silicon	mg/L	1	60	60	60	0.1			
Sodium	mg/L	1	63	63	63	0.1		200	
Sulphate	mg/L	1	13	13	13	0.02		250	
Suspended Solids	mg/L	4	ND	ND	ND	0.2			
Total Dissolved Solids	mg/L	4	280	260	275	15		1000	
Total Hardness	mg/L	4	43	32	39	0.029		200	
Total Organic Carbon TOC	mg/L	13	0.9	ND	0.3	0.1			
Turbidity	NTU	122	0.35	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	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	0.010	ND	0.005	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	4	0.052	0.049	0.051	0.005			
Nitrate	mg/L as NO <sub>3</sub>	4	3.54	3.28	3.41	0.002	50		√
Nitrite	mg/L as NO <sub>2</sub>	4	ND	ND	ND	0.002	0.20		√
TKN (Total Kjeldahl Nitrogen)	mg/L N	4	ND	ND	ND	0.1			
Total Phosphorus	mg/L	4	0.067	0.037	0.055	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	1	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	1	ND	ND	ND	0.001	0.02		√
Arsenic	mg/L	4	0.0002	ND	0.0001	0.0001	0.01		√
Barium	mg/L	1	0.019	0.019	0.019	0.0002	0.7		√
Boron	mg/L	1	0.01	0.01	0.01	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	0.0001	0.05		√
Copper	mg/L	4	0.0018	0.0009	0.0012	0.0002	2		√
Lead	mg/L	4	ND	ND	ND	0.0001	0.01		√
Lithium	mg/L	1	0.0037	0.0037	0.0037	0.0001			
Mercury	mg/L	1	ND	ND	ND	0.00005	0.007		√
Molybdenum	mg/L	1	ND	ND	ND	0.0003	0.07		√
Nickel	mg/L	4	0.0002	ND	0.0002	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	14	0.0032	ND	0.0006	0.0001	0.06		√
Bromoform	mg/L	14	0.0049	ND	0.0025	0.0001	0.1		√
Chloroform	mg/L	14	0.0003	ND	ND	0.0001	0.4		√
Dibromochloromethane	mg/L	14	0.0041	ND	0.0017	0.0001	0.15		√
THMs Ratio		14	0.13	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	10	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	10	ND	ND	ND	0.0001			
1,2,4-trichlorobenzene	mg/L	10	ND	ND	ND	0.0001			
1,2-dichlorobenzene	mg/L	10	ND	ND	ND	0.0001	1.5	0.001	√
1,2-dichloroethane	mg/L	10	ND	ND	ND	0.0001	0.03		√
1,4-dichlorobenzene	mg/L	10	ND	ND	ND	0.0001	0.4	0.0003	√
Benzene	mg/L	10	ND	ND	ND	0.0001	0.01		√
Carbon tetrachloride	mg/L	10	ND	ND	ND	0.0001			
Ethylbenzene	mg/L	10	ND	ND	ND	0.0001	0.3	0.002	√
Xylene	mg/L	10	ND	ND	ND	0.0001	0.6	0.02	√
Styrene	mg/L	10	ND	ND	ND	0.0001	0.03	0.004	√
Tetrachloroethene	mg/L	10	ND	ND	ND	0.0001	0.05		√
Toluene	mg/L	10	ND	ND	ND	0.0001	0.8	0.03	√
1,2-dichloroethene (cis + trans)	mg/L	10	ND	ND	ND	0.0001	0.06		√
Trichloroethene	mg/L	10	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	7	ND	ND	ND	0.0001			
2,4-Dichlorophenoxyacetic acid (2,4-BD)	mg/L	7	ND	ND	ND	0.0001			
4-(2,4-dichlorophenoxy) butanoic (2,4-DB)	mg/L	7	ND	ND	ND	0.0001			
Bentazone	mg/L	7	ND	ND	ND	0.0001			
Dichlorprop	mg/L	7	ND	ND	ND	0.0001	0.1		✓
MCPA	mg/L	7	ND	ND	ND	0.0001	0.002		✓
Mecoprop	mg/L	7	ND	ND	ND	0.0001	0.01		✓
Picloram	mg/L	7	ND	ND	ND	0.0001	0.2		✓
Triclopyr	mg/L	7	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	27	0.012	0.006	0.009	0.002			
Alkalinity (Total)	mg/L CaCO <sub>3</sub>	21	64	43	49	1			
Aluminium	mg/L	52	0.037	0.021	0.028	0.005		0.1	
Bromate	mg/L	5	ND	ND	ND	0.005	0.01		✓
Bromide	mg/L	14	0.07	0.02	0.04	0.01			
Calcium	mg/L	21	9.9	7.1	8.0	0.01			
Calcium Hardness	mg/L	21	25	18	20	0.025			
Chlorate	mg/L	7	0.05	0.03	0.04	0.01	0.8		✓
Chloride	mg/L	14	22	18	20	0.02		250	
Chlorine Residual	mg/L	365	2.2*	0.40	1.00	0.02	5	0.6-1.0	✓
Chlorite	mg/L	7	ND	ND	ND	0.005	0.8		✓
Colour	Hazen Units	19	ND	ND	ND	5		10	
Conductivity	mS/cm	27	25.7	20.9	22.6	0.5			
Cyanide	mg/L	7	ND	ND	ND	0.005	0.6		✓
Fluoride	mg/L	27	0.17	0.12	0.14	0.02	1.5		✓
Iodide	mg/L	2	0.008	0.007	0.007	0.002			
Iron (Total)	mg/L	52	0.130	ND	0.003	0.002		0.2	
Magnesium	mg/L	21	8.8	6.6	7.4	0.001			
Magnesium Hardness	mg/L	21	36	27	30	0.0041			
Manganese	mg/L	21	0.0017	ND	ND	0.0005	0.4	0.04	✓
pH	pH Units	365	8.4	7.6	8.0	0.1		7.0-8.5	
Potassium	mg/L	5	3.0	2.4	2.6	0.1			
Silicon	mg/L	5	34	28	30	0.1			
Sodium	mg/L	5	23	19	21	0.1		200	
Sulphate	mg/L	14	14	12	13	0.02		250	
Suspended Solids	mg/L	21	ND	ND	ND	0.2			
Total Dissolved Solids	mg/L	2	180	160	170	15.0		1000	
Total Hardness	mg/L	21	61	45	50	0.029		200	
Total Organic Carbon TOC	mg/L	27	1.6	0.3	0.6	0.1			
Turbidity	NTU	365	0.8	ND	0.1	0.1		2.5	

\*An elevated chlorine residual result was reported by the Laboratory on the 2/08/2016. An investigation was completed which determined that the sample result was not representative of water being produced by the plant.

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	7	0.042	ND	0.021	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	7	0.065	0.027	0.043	0.005			
Nitrate	mg/L as NO <sub>3</sub>	7	14.2	12.8	13.7	0.002	50		✓
Nitrite	mg/L as NO <sub>2</sub>	7	0.013	ND	0.008	0.002	0.20		✓
TKN (Total Kjeldahl Nitrogen)	mg/L N	7	ND	ND	ND	0.1			
Total Phosphorus	mg/L	7	0.062	0.028	0.045	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			
Pirymiphos methyl	µg/L	3	ND	ND	ND	0.2	100		✓

### Trace Elements

Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
Antimony	mg/L	7	0.001	ND	ND	0.001	0.02		✓
Arsenic	mg/L	7	0.0003	0.0002	0.0002	0.0001	0.01		✓
Barium	mg/L	5	0.0018	0.0016	0.0017	0.0002	0.7		✓
Boron	mg/L	5	0.054	0.026	0.043	0.005	1.4		✓
Cadmium	mg/L	7	ND	ND	ND	0.00005	0.004		✓
Chromium	mg/L	7	0.0020	0.0009	0.0012	0.0001	0.05		✓
Copper	mg/L	7	0.0032	0.0012	0.0022	0.0002	2		✓
Lead	mg/L	7	ND	ND	ND	0.0001	0.01		✓
Lithium	mg/L	5	0.0004	ND	0.0003	0.0001			
Mercury	mg/L	7	ND	ND	ND	0.00005	0.007		✓
Molybdenum	mg/L	5	0.0009	0.0007	0.0008	0.0003	0.07		✓
Nickel	mg/L	7	0.0052	ND	0.0008	0.0001	0.08		✓
Selenium	mg/L	5	0.0006	ND	ND	0.0005	0.01		✓
Zinc	mg/L	7	0.002	ND	0.001	0.001		1.5	

Trihalomethanes									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
Bromodichloromethane	mg/L	28	0.0025	ND	0.0006	0.0001	0.06		✓
Bromoform	mg/L	28	0.0035	ND	0.0021	0.0001	0.1		✓
Chloroform	mg/L	28	0.0020	ND	0.0003	0.0001	0.4		✓
Dibromochloromethane	mg/L	28	0.0036	0.0010	0.0020	0.0001	0.15		✓
THMs Ratio		28	0.10	0.01	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	10	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	10	ND	ND	ND	0.0001			
1,2,4-trichlorobenzene	mg/L	10	ND	ND	ND	0.0001			
1,2-dichlorobenzene	mg/L	10	ND	ND	ND	0.0001	1.5	0.001	✓
1,2-dichloroethane	mg/L	10	ND	ND	ND	0.0001	0.03		✓
1,4-dichlorobenzene	mg/L	10	ND	ND	ND	0.0001	0.4	0.0003	✓
Benzene	mg/L	10	ND	ND	ND	0.0001	0.01		✓
Carbon tetrachloride	mg/L	10	ND	ND	ND	0.0001			
Ethylbenzene	mg/L	10	ND	ND	ND	0.0001	0.3	0.002	✓
Xylenes (total)	mg/L	10	ND	ND	ND	0.0001	0.6	0.02	✓
Styrene	mg/L	10	ND	ND	ND	0.0001	0.03	0.004	✓
Tetrachloroethene	mg/L	10	ND	ND	ND	0.0001	0.05		✓
Toluene	mg/L	10	ND	ND	ND	0.0001	0.8	0.03	✓
1,2-dichloroethene (cis + trans)	mg/L	10	ND	ND	ND	0.0001	0.06		✓
Trichloroethene	mg/L	10	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)
Alkalinity (Total)	mg/L CaCO <sub>3</sub>	3	200	200	200	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	0.04	0.04	0.04	0.01			
Calcium	mg/L	3	3.6	3.5	3.6	0.01			
Calcium Hardness	mg/L	3	9	9	9	0.025			
Chlorate	mg/L	3	0.01	ND	ND	0.01	0.8		√
Chloride	mg/L	1	39	39	39	0.02		250	
Chlorine Residual	mg/L	122	1.76	0.74	1.15	0.02	5	0.6-1.0	√
Chlorite	mg/L	3	0.005	ND	ND	0.005	0.8		√
Colour	Hazen Units	1	ND	ND	ND	5		10	
Conductivity	mS/cm	1	50.3	50.3	50.3	0.5			
Cyanide	mg/L	1	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	1	0.13	0.13	0.13	0.02	1.5		√
Iodide	mg/L	1	0.010	0.010	0.010	0.002			
Iron (Total)	mg/L	10	0.004	ND	0.002	0.002		0.2	
Magnesium	mg/L	3	0.3	0.3	0.3	0.001			
Magnesium Hardness	mg/L	3	1.3	1.2	1.2	0.0041			
Manganese	mg/L	10	0.002	0.001	0.001	0.0005	0.4	0.04	√
pH	pH Units	122	8.5	7.3	8.4	0.1		7.0-8.5	
Potassium	mg/L	1	0.3	0.3	0.3	0.1			
Silicon	mg/L	1	46	46	46	0.1			
Sodium	mg/L	1	110	110	110	0.1		200	
Sulphate	mg/L	1	4.5	4.5	4.5	0.02		250	
Suspended Solids	mg/L	1	ND	ND	ND	0.2			
Total Dissolved Solids	mg/L	1	350	350	350	15		1000	
Total Hardness	mg/L	3	10.0	9.9	10.0	0.029		200	
Total Organic Carbon TOC	mg/L	4	0.7	0.5	0.6	0.1			
Turbidity	NTU	122	0.3	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	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	1	ND	ND	ND	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	1	0.10	0.10	0.10	0.005			
Nitrate	mg/L as NO <sub>3</sub>	1	0.058	0.058	0.058	0.002	50		√
Nitrite	mg/L as NO <sub>2</sub>	1	0.02	0.02	0.02	0.002	0.20		√
TKN (Total Kjeldahl Nitrogen)	mg/L N	1	ND	ND	ND	0.1			
Total Phosphorus	mg/L	1	0.10	0.10	0.10	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		✓
Terbutylazine	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	10	ND	ND	ND	0.0001	0.01		✓
Barium	mg/L	1	0.0003	0.0003	0.0003	0.0002	0.7		✓
Boron	mg/L	1	0.140	0.140	0.140	0.005	1.4		✓
Cadmium	mg/L	1	ND	ND	ND	0.00005	0.004		✓
Chromium	mg/L	1	ND	ND	ND	0.0001	0.05		✓
Copper	mg/L	1	0.0014	0.0014	0.0014	0.0002	2		✓
Lead	mg/L	1	ND	ND	ND	0.0001	0.01		✓
Lithium	mg/L	1	0.023	0.023	0.023	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	9	0.0016	ND	0.0008	0.0001	0.06		✓
Bromoform	mg/L	9	0.0023	ND	0.0010	0.0001	0.1		✓
Chloroform	mg/L	9	0.0006	ND	0.0002	0.0001	0.4		✓
Dibromochlorometane	mg/L	9	0.0024	ND	0.0013	0.0001	0.15		✓
THM Ratio		9	0.06	ND	0.03		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 WTP Treated (Waiuku)

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	ND	ND	ND	0.002			
Alkalinity (Total)	mg/L CaCO <sub>3</sub>	4	130	120	123	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	0.04	0.04	0.04	0.01			
Calcium	mg/L	1	29.0	29.0	29.0	0.01			
Calcium Hardness	mg/L	1	73	73	73	0.025			
Chlorate	mg/L	1	0.01	0.01	0.01	0.01	0.8		✓
Chloride	mg/L	1	33.00	33.00	33.00	0.02		250	
Chlorine Residual	mg/L	122	1.05	0.43	0.77	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	35.7	35.7	35.7	0.5			
Cyanide	mg/L	1	ND	ND	ND	0.005	0.6		✓
Fluoride	mg/L	1	0.07	0.07	0.07	0.02	1.5		✓
Iodide	mg/L	1	0.01	0.01	0.01	0.002			
Iron (Total)	mg/L	13	ND	ND	ND	0.002		0.2	
Magnesium	mg/L	1	9.300	9.300	9.300	0.001			
Magnesium Hardness	mg/L	1	38.0	38.0	38.0	0.0041			
Manganese	mg/L	13	0.0023	ND	0.0012	0.0005	0.4	0.04	✓
pH	pH Units	122	8.1	7.7	7.9	0.1		7.0-8.5	
Potassium	mg/L	1	3.8	3.8	3.8	0.1			
Silicon	mg/L	1	53.0	53.0	53.0	0.1			
Sodium	mg/L	1	24.0	24.0	24.0	0.1		200	
Sulphate	mg/L	1	5.1	5.1	5.1	0.02		250	
Suspended Solids	mg/L	1	ND	ND	ND	0.2			
Total Dissolved Solids	mg/L	1	250	250	250	15		1000	
Total Hardness	mg/L	1	110	110	110	0.029		200	
Turbidity	NTU	122	1.5	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	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	1	ND	ND	ND	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	1	0.069	0.069	0.069	0.005			
Nitrate	mg/L as NO <sub>3</sub>	1	0.071	0.071	0.071	0.002	50		✓
Nitrite	mg/L as NO <sub>2</sub>	1	ND	ND	ND	0.002	0.20		✓
TKN (Total Kjeldahl Nitrogen)	mg/L N	1	ND	ND	ND	0.1			
Total Phosphorus	mg/L	1	0.066	0.066	0.066	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		✓
Terbutylazine	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	0.0052*	0.0039	0.0045	0.0001	0.01		✓
Barium	mg/L	1	0.0007	0.0007	0.0007	0.0002	0.7		✓
Boron	mg/L	1	0.006	0.006	0.006	0.005	1.4		✓
Cadmium	mg/L	1	ND	ND	ND	0.00005	0.004		✓
Chromium	mg/L	1	ND	ND	ND	0.0001	0.05		✓
Copper	mg/L	1	ND	ND	ND	0.0002	2		✓
Lead	mg/L	1	ND	ND	ND	0.0001	0.01		✓
Lithium	mg/L	1	0.0100	0.0100	0.0100	0.0001			
Mercury	mg/L	1	ND	ND	ND	0.00005	0.007		✓
Molybdenum	mg/L	1	ND	ND	ND	0.0003	0.07		✓
Nickel	mg/L	1	ND	ND	ND	0.0001	0.08		✓
Selenium	mg/L	1	ND	ND	ND	0.0005	0.01		✓
Zinc	mg/L	1	0.005	0.005	0.005	0.001		1.5	

\*One treated water sample, taken in October 2016, exceeded half of the MAV set out in the DWSNZ. Arsenic is a naturally occurring compound in the groundwater the bore is abstracting from. It is listed as a P2 determinand for the supply, additional sampling is taking place, and remedial measures are being implemented.

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	0.0032	ND	0.0016	0.0001	0.06		✓
Bromoform	mg/L	13	0.0039	ND	0.0025	0.0001	0.1		✓
Chloroform	mg/L	13	0.0010	ND	0.0002	0.0001	0.4		✓
Dibromochloromethane	mg/L	13	0.0055	0.0020	0.0036	0.0001	0.15		✓
THM Ratio		13	0.11	0.05	0.08		1		✓

Volatile Organic Compounds									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 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	7	ND	ND	ND	0.0001			
2,4-Dichlorophenoxyacetic acid (2,4-BD)	mg/L	7	ND	ND	ND	0.0001			
4-(2,4-dichlorophenoxy) butanoic (2,4-DB)	mg/L	7	ND	ND	ND	0.0001			
Bentazone	mg/L	7	ND	ND	ND	0.0001			
Dichlorprop	mg/L	7	ND	ND	ND	0.0001	0.1		✓
MCPA	mg/L	7	ND	ND	ND	0.0001	0.002		✓
Mecoprop	mg/L	7	ND	ND	ND	0.0001	0.01		✓
Picloram	mg/L	7	ND	ND	ND	0.0001	0.2		✓
Triclopyr	mg/L	7	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	43	0.043	0.009	0.021	0.002			
Alkalinity (Total)	mg/L CaCO <sub>3</sub>	43	35	14	17	1			
Aluminium	mg/L	43	0.046	0.016	0.023	0.005		0.1	
Bromate	mg/L	7	ND	ND	ND	0.005	0.01		✓
Bromide	mg/L	7	0.04	0.01	0.02	0.01			
Calcium	mg/L	23	17.0	8.9	11.3	0.01			
Calcium Hardness	mg/L	23	44	22	28	0.025			
Chlorate	mg/L	7	ND	ND	ND	0.01	0.8		✓
Chloride	mg/L	7	25.00	18.00	23.43	0.02		250	
Chlorine Residual	mg/L	285	1.20	0.47	0.86	0.02	5	0.6-1.0	✓
Chlorite	mg/L	7	ND	ND	ND	0.005	0.8		✓
Colour	Hazen Units	21	ND	ND	ND	5		10	
Conductivity	mS/cm	21	17.8	15.5	16.6	0.5			
Cyanide	mg/L	5	ND	ND	ND	0.005	0.6		✓
Fluoride	mg/L	44	0.93	ND	0.68	0.02	1.5		✓
Iodide	mg/L	4	0.003	ND	0.002	0.002			
Iron (Total)	mg/L	43	0.022	0.010	0.014	0.002		0.2	
Magnesium	mg/L	23	2.8	1.5	2.4	0.001			
Magnesium Hardness	mg/L	23	11	6	10	0.0041			
Manganese	mg/L	43	0.0560	0.0026	0.0116	0.0005	0.4	0.04	✓
pH	pH Units	285	8.6	7.2	7.7	0.1		7.0-8.5	
Potassium	mg/L	7	1.1	0.9	1.0	0.1			
Silicon	mg/L	7	14.0	11.0	12.9	0.1			
Sodium	mg/L	7	15.0	11.0	13.1	0.1		200	
Sulphate	mg/L	7	25.00	15.00	19.00	0.02		250	
Suspended Solids	mg/L	21	0.4	ND	ND	0.2			
Total Hardness	mg/L	23	52	32	38	0.029		200	
Total Organic Carbon TOC	mg/L	21	2.4	0.7	1.6	0.1			
Turbidity	NTU	285	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	285	1*	ND	ND	1	<1		✓

\*On the 24th January 2017, a treated water sample collected from Waitakere WTP tested positive for E.coli. Investigations confirmed that disinfection processes before, during, and after the event were unchanged and met the DWSNZ requirements for effective disinfection. No contamination sources were identified, and all subsequent follow up samples were negative for E.coli. It was concluded that the positive E.coli result was not representative of water being produced and supplied by the Waitakere WTP on this date.

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	7	ND	ND	ND	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	7	0.009	0.006	0.008	0.005			
Nitrate	mg/L as NO <sub>3</sub>	7	0.222	0.120	0.172	0.002	50		√
Nitrite	mg/L as NO <sub>2</sub>	7	0.010	ND	ND	0.002	0.20		√
TKN (Total Kjeldahl Nitrogen)	mg/L N	7	ND	ND	ND	0.1			
Total Phosphorus	mg/L	7	0.016	0.007	0.010	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	1	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	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			
Pyrimiphos 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	7	ND	ND	ND	0.001	0.02		✓
Arsenic	mg/L	7	0.0002	ND	0.0001	0.0001	0.01		✓
Barium	mg/L	7	0.0081	0.0061	0.0071	0.0002	0.7		✓
Boron	mg/L	7	0.015	ND	0.010	0.005	1.4		✓
Cadmium	mg/L	7	ND	ND	ND	0.00005	0.004		✓
Chromium	mg/L	7	0.0007	ND	0.0003	0.0001	0.05		✓
Copper	mg/L	7	0.0051	0.0013	0.0023	0.0002	2		✓
Lead	mg/L	7	ND	ND	ND	0.0001	0.01		✓
Lithium	mg/L	7	0.0009	0.0004	0.0007	0.0001			
Mercury	mg/L	5	ND	ND	ND	0.00005	0.007		✓
Molybdenum	mg/L	7	ND	ND	ND	0.0003	0.07		✓
Nickel	mg/L	7	0.0005	ND	0.0002	0.0001	0.08		✓
Selenium	mg/L	7	ND	ND	ND	0.0005	0.01		✓
Zinc	mg/L	7	0.003	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	42	0.0160	0.0056	0.0102	0.0001	0.06		✓
Bromoform	mg/L	42	0.0071	ND	0.0026	0.0001	0.1		✓
Chloroform	mg/L	42	0.0270	0.0018	0.0092	0.0001	0.4		✓
Dibromochloromethane	mg/L	42	0.0210	0.0036	0.0111	0.0001	0.15		✓
THMs Ratio		42	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	3	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	3	ND	ND	ND	0.0001			
1,2,4-trichlorobenzene	mg/L	3	ND	ND	ND	0.0001			
1,2-dichlorobenzene	mg/L	3	ND	ND	ND	0.0001	1.5	0.001	✓
1,2-dichloroethane	mg/L	3	ND	ND	ND	0.0001	0.03		✓
1,4-dichlorobenzene	mg/L	3	ND	ND	ND	0.0001	0.4	0.0003	✓
Benzene	mg/L	3	ND	ND	ND	0.0001	0.01		✓
Carbon tetrachloride	mg/L	3	ND	ND	ND	0.0001			
Ethylbenzene	mg/L	3	ND	ND	ND	0.0001	0.3	0.002	✓
Xylenes (total)	mg/L	3	ND	ND	ND	0.0001	0.6	0.02	✓
Styrene	mg/L	3	ND	ND	ND	0.0001	0.03	0.03	✓
Tetrachloroethene	mg/L	3	ND	ND	ND	0.0001	0.05		✓
Toluene	mg/L	3	ND	ND	ND	0.0001	0.8	0.03	✓
1,2-dichloroethene (cis + trans)	mg/L	3	ND	ND	ND	0.0001	0.06		✓
Trichloroethene	mg/L	3	ND	ND	ND	0.0001	0.02		✓

\*\*A reduced number of samples were collected for all parameters across the reporting period due to multiple plant shutdowns for planned maintenance activities

## 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	3	ND	ND	ND				
2,4,5- trichlorophenoxyacetic acid (2,4,5-T)	mg/L	10	ND	ND	ND	0.0001			
2,4-Dichlorophenoxyacetic acid (2,4-BD)	mg/L	10	ND	ND	ND	0.0001			
4-(2,4-dichlorophenoxy) butanoic (2,4-DB)	mg/L	10	ND	ND	ND	0.0001			
Bentazone	mg/L	10	ND	ND	ND	0.0001			
Dichlorprop	mg/L	10	ND	ND	ND	0.0001	0.1		✓
MCPA	mg/L	10	ND	ND	ND	0.0001	0.002		✓
Mecoprop	mg/L	10	ND	ND	ND	0.0001	0.01		✓
Picloram	mg/L	10	ND	ND	ND	0.0001	0.2		✓
Triclopyr	mg/L	10	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	0.062	0.013	0.027	0.002			
Alkalinity (Total)	mg/L CaCO <sub>3</sub>	52	53	31	44	1			
Aluminium	mg/L	54	0.057	0.023	0.031	0.005		0.1	
Bromate	mg/L	7	ND	ND	ND	0.005	0.01		✓
Bromide	mg/L	7	0.03	ND	ND	0.01			
Calcium	mg/L	29	27.0	14.0	18.0	0.01			
Calcium Hardness	mg/L	29	66	36	46	0.025			
Chlorate	mg/L	7	0.19	ND	0.14	0.01	0.8		✓
Chloride	mg/L	7	21.00	18.00	20.00	0.02		250	
Chlorine Residual	mg/L	365	1.69	0.41	1.27	0.02	5	0.6-1.0	✓
Chlorite	mg/L	7	ND	ND	ND	0.005	0.8		✓
Colour	Hazen Units	22	ND	ND	ND	5		10	
Conductivity	mS/cm	28	26.9	20.1	22.6	0.5			
Cyanide	mg/L	7	ND	ND	ND	0.005	0.6		✓
Fluoride	mg/L	52	0.80	0.20	0.70	0.02	1.5		✓
Iodide	mg/L	7	0.005	ND	0.002	0.002			
Iron (Total)	mg/L	29	0.070	0.020	0.030	0.002		0.2	
Magnesium	mg/L	29	3.1	2.4	2.7	0.001			
Magnesium Hardness	mg/L	29	13	10	11	0.0041			
Manganese	mg/L	54	0.0090	0.0010	0.0030	0.0005	0.4	0.04	✓
pH	pH Units	365	8.6	6.9	7.8	0.1		7.0-8.5	
Potassium	mg/L	22	3.6	2.7	3.0	0.1			
Silicon	mg/L	7	31.0	24.0	27.3	0.1			
Sodium	mg/L	7	20.0	15.0	17.6	0.1		200	
Sulphate	mg/L	7	31.00	8.50	22.21	0.02		250	
Suspended Solids	mg/L	28	0.5	ND	0.2	0.2			
Total Dissolved Solids	mg/L	8	180	110	149				
Total Hardness	mg/L	29	78.0	46.0	56.9	0.029		200	
Total Organic Carbon TOC	mg/L	28	3.1	0.9	1.8	0.1			
Turbidity	NTU	365	0.6	0.1	0.3	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	7	ND	ND	ND	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	13	0.012	0.005	0.010	0.005			
Nitrate	mg/L as NO <sub>3</sub>	14	4.873	0.886	2.718	0.002	50		✓
Nitrite	mg/L as NO <sub>2</sub>	14	ND	ND	ND	0.002	0.20		✓
TKN (Total Kjeldahl Nitrogen)	mg/L N	7	0.3	ND	0.1	0.1			
Total Phosphorus	mg/L	13	0.026	0.007	0.014	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									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
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									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
Chlorpyrifos	µg/L	13	ND	ND	ND	0.2	40		√
Diazinon	µg/L	13	ND	ND	ND	0.1			
Pyrimiphos methyl	µg/L	13	ND	ND	ND	0.2	100		√

Trace Elements									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
Antimony	mg/L	7	ND	ND	ND	0.001	0.02		√
Arsenic	mg/L	7	0.0013	0.0005	0.0008	0.0001	0.01		√
Barium	mg/L	7	0.0250	0.0160	0.0200	0.0002	0.7		√
Boron	mg/L	14	0.220	0.080	0.140	0.005	1.4		√
Cadmium	mg/L	7	ND	ND	ND	0.00005	0.004		√
Chromium	mg/L	7	0.0010	ND	0.0003	0.0001	0.05		√
Copper	mg/L	7	0.0013	0.0005	0.0008	0.0002	2		√
Lead	mg/L	7	ND	ND	ND	0.0001	0.01		√
Lithium	mg/L	7	0.0690	0.0280	0.0410	0.0001			
Mercury	mg/L	54	0.00009	ND	ND	0.00005	0.007		√
Molybdenum	mg/L	7	0.0004	ND	ND	0.0003	0.07		√
Nickel	mg/L	7	0.0004	ND	0.0002	0.0001	0.08		√
Selenium	mg/L	7	ND	ND	ND	0.0005	0.01		√
Zinc	mg/L	7	0.003	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	58	0.0140	0.0022	0.0057	0.0001	0.06		✓
Bromoform	mg/L	58	0.0040	ND	0.0006	0.0001	0.1		✓
Chloroform	mg/L	58	0.0340	ND	0.0082	0.0001	0.4		✓
Dibromochloromethane	mg/L	58	0.0078	0.0021	0.0039	0.0001	0.15		✓
THMs Ratio		58	0.34	0.07	0.15		1		✓

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

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	120	125	1			
Aluminium	mg/L	1	ND	ND	ND	0.005		0.1	
Bromate	mg/L	1	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	1	0.04	0.04	0.04	0.01			
Calcium	mg/L	1	28.0	28.0	28.0	0.01			
Calcium Hardness	mg/L	1	70	70	70	0.025			
Chlorate	mg/L	1	ND	ND	ND	0.01	0.8		√
Chloride	mg/L	1	32.00	32.00	32.00	0.02		250	
Chlorine Residual	mg/L	123	1.01	0.38	0.71	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	34.2	34.2	34.2	0.5			
Cyanide	mg/L	1	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	1	0.06	0.06	0.06	0.02	1.5		√
Iodide	mg/L	1	0.003	0.003	0.003	0.002			
Iron (Total)	mg/L	13	0.002	ND	0.002	0.002		0.2	
Magnesium	mg/L	1	7.3	7.3	7.3	0.001			
Magnesium Hardness	mg/L	1	30	30	30	0.0041			
Manganese	mg/L	13	0.0010	ND	0.0006	0.0005	0.4	0.04	√
pH	pH Units	123	8.1	7.7	7.9	0.1		7.0-8.5	
Potassium	mg/L	1	4.8	4.8	4.8	0.1			
Silicon	mg/L	1	35.0	35.0	35.0	0.1			
Sodium	mg/L	1	26.0	26.0	26.0	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	210	210	210	15		1000	
Total Hardness	mg/L	1	100	100	100	0.03		200	
Turbidity		123	0.4	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	123	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	0.064	0.064	0.064	0.005			
Nitrate	mg/L as NO <sub>3</sub>	1	0.071	0.071	0.071	0.002	50		√
Nitrite	mg/L as NO <sub>2</sub>	1	ND	ND	ND	0.002	0.20		√
TKN (Total Kjeldahl Nitrogen)	mg/L N	1	ND	ND	ND	0.1			
Total Phosphorus	mg/L	1	0.059	0.059	0.059	0.005			

Plasticizers									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV 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		√	
Terbutylazine	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				
Pyrimiphos methyl	µg/L	1	ND	ND	ND	0.2	100		√	

Trace Elements										
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)	
Antimony	mg/L	1	ND	ND	ND	0.001	0.02		√	
Arsenic	mg/L	13	0.0037	0.0033	0.0035	0.0001	0.01		√	
Barium	mg/L	1	ND	ND	ND	0.0002	0.7		√	
Boron	mg/L	1	ND	ND	ND	0.005	1.4		√	
Cadmium	mg/L	1	ND	ND	ND	0.00005	0.004		√	
Chromium	mg/L	1	ND	ND	ND	0.0001	0.05		√	
Copper	mg/L	1	0.0005	0.0005	0.0005	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	0.003	0.003	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	0.0042	0.0014	0.0022	0.0001	0.06		√	
Bromoform	mg/L	13	0.0034	ND	0.0023	0.0001	0.1		√	
Chloroform	mg/L	13	0.0011	ND	0.0007	0.0001	0.4		√	
Dibromochlorometane	mg/L	13	0.0067	0.0027	0.0040	0.0001	0.15		√	
THMs Ratio		13	0.12	0.06	0.08		1		√	

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

## Warkworth 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	10	ND	ND	ND	0.0001			
2-4-Dichlorophenoxyacetic acid	mg/L	10	ND	ND	ND	0.0001			
4-(2-4-Dichlorophenoxy) butano	mg/L	10	ND	ND	ND	0.0001			
Bentazone	mg/L	10	ND	ND	ND	0.0001			
Dichlorprop	mg/L	10	ND	ND	ND	0.0001	0.1		✓
MCPA	mg/L	10	ND	ND	ND	0.0001	0.002		✓
Mecoprop (MCP)	mg/L	10	ND	ND	ND	0.0001	0.01		✓
Picloram	mg/L	10	ND	ND	ND	0.0001	0.2		✓
Triclopyr	mg/L	10	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	37	0.03	0.01	0.02	0.002			
Alkalinity (Total)	mg/L CaCO <sub>3</sub>	34	78	15	40	1			
Aluminium	mg/L	38	1.3*	0.010	0.079	0.005		0.1	
Bromate	mg/L	2	ND	ND	ND	0.005	0.01		✓
Bromide	mg/L	2	0.03	0.02	0.02	0.01			
Calcium	mg/L	10	14.0	8.7	10.7	0.01			
Calcium Hardness	mg/L	10	35	22	27	0.025			
Chlorate	mg/L	2	ND	ND	ND	0.01	0.8		✓
Chloride	mg/L	2	29.00	28.00	28.50	0.02		250	
Chlorine Residual	mg/L	122	2.2**	0.45	1.04	0.02	5	0.6-1.0	✓
Chlorite	mg/L	2	ND	ND	ND	0.005	0.8		✓
Colour	Hazen Units	3	ND	ND	ND	5		10	
Conductivity	mS/cm	9	32.9	20.4	24.9	0.5			
Cyanide	mg/L	2	ND	ND	ND	0.005	0.6		✓
Fluoride	mg/L	9	0.05	ND	0.03	0.02	1.5		✓
Iodide	mg/L	2	0.007	ND	0.004	0.002			
Iron (Total)	mg/L	10	0.021	ND	0.005	0.002		0.2	
Magnesium	mg/L	10	5.5	2.7	3.9	0.001			
Magnesium Hardness	mg/L	10	23	11	16	0.0041			
Manganese	mg/L	10	0.0150	0.0035	0.0099	0.0005	0.4	0.04	✓
pH	pH Units	122	7.9	7.0	7.4	0.1		7.0-8.5	
Potassium	mg/L	2	1.20	0.93	1.07	0.1			
Silicon	mg/L	2	25.0	18.0	21.5	0.1			
Sodium	mg/L	2	42	22	32	0.1		200	
Sulphate	mg/L	3	39	27	32	0.02		250	
Suspended Solids	mg/L	9	3.10	ND	0.43	0.2			
Total Dissolved Solids	mg/L	9	190	90	141	15		1000	
Total Hardness	mg/L	10	58	34	42	0.029		200	
Total Organic Carbon TOC	mg/L	27	2.2	0.7	1.25	0.1			
Turbidity	NTU	122	0.6	ND	0.1	0.1		2.5	

\*Heavy rainfall in the Auckland Region in March 2017 resulted in a significant deterioration in the quality of raw water supplied to this plant. This placed increased pressure on existing treatment processes, resulting in an elevated treated water aluminium result on the 14/03/2017.

\*\*An elevated chlorine residual result was reported by the Laboratory on the 11/03/2017. An investigation was completed which determined that the sample result was not representative of water being produced by the plant.

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	2	ND	ND	ND	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	8	0.008	0.002	0.005	0.005			
Nitrate	mg/L as NO3	9	1.152	0.016	0.511	0.002	50		√
Nitrite	mg/L as NO2	9	0.008	ND	ND	0.002	0.20		√
TKN (Total Kjeldahl Nitrogen)	mg/L N	2	0.220	ND	0.110	0.1			
Total Phosphorus	mg/L	8	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	9	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	9	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	9	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	9	ND	ND	ND	0.01	0.04		√
Chlordane	µg/L	9	ND	ND	ND	0.01	0.2		√
Lindane	µg/L	9	ND	ND	ND	0.01	2		√
Heptachlor	µg/L	9	ND	ND	ND	0.01			
Heptachlor epoxide	µg/L	9	ND	ND	ND	0.01			
Hexachlorobenzene	µg/L	9	ND	ND	ND	0.1			
Methoxychlor	µg/L	9	ND	ND	ND	0.2	20		√
Permethrin (cis + trans)	µg/L	9	ND	ND	ND	0.2			
DDT + isomers	µg/L	9	ND	ND	ND	0.2	1		√
Procymidone	µg/L	9	ND	ND	ND	0.2	700		√
Organonitrogen Herbicides									
Alachlor	µg/L	9	ND	ND	ND	0.2	20		√
Atrazine	µg/L	9	ND	ND	ND	0.1	2		√
Metolachlor	µg/L	9	ND	ND	ND	0.1	10		√
Molinate	µg/L	9	ND	ND	ND	0.1	7		√
Pendimethalin	µg/L	9	ND	ND	ND	0.2	20		√
Propanil	µg/L	9	ND	ND	ND	0.1			
Simazine	µg/L	9	ND	ND	ND	0.1	2		√
Terbutylazine	µg/L	9	ND	ND	ND	0.2	8		√
Trifluralin	µg/L	9	ND	ND	ND	0.2	30		√
Organophosphorus Pesticides									
Chlorpyrifos	µg/L	9	ND	ND	ND	0.2	40		√
Diazinon	µg/L	9	ND	ND	ND	0.1			
Pyrimiphos methyl	µg/L	9	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	2	ND	ND	ND	0.001	0.02		✓
Arsenic	mg/L	2	0.0002	ND	0.0001	0.0001	0.01		✓
Barium	mg/L	2	0.015	0.010	0.012	0.0002	0.7		✓
Boron	mg/L	2	0.048	0.014	0.031	0.005	1.4		✓
Cadmium	mg/L	2	ND	ND	ND	0.00005	0.004		✓
Chromium	mg/L	2	ND	ND	ND	0.0001	0.05		✓
Copper	mg/L	2	0.0009	0.0005	0.0007	0.0002	2		✓
Lead	mg/L	2	ND	ND	ND	0.0001	0.01		✓
Lithium	mg/L	2	0.0043	0.0010	0.0026	0.0001			
Mercury	mg/L	2	ND	ND	ND	0.00005	0.007		✓
Molybdenum	mg/L	2	ND	ND	ND	0.0003	0.07		✓
Nickel	mg/L	2	0.0006	0.0003	0.0005	0.0001	0.08		✓
Selenium	mg/L	2	ND	ND	ND	0.0005	0.01		✓
Zinc	mg/L	2	0.004	0.004	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	12	0.0060	0.0012	0.0038	0.0001	0.06		✓
Bromoform	mg/L	12	0.0037	ND	0.0023	0.0001	0.1		✓
Chloroform	mg/L	12	0.0083	ND	0.0021	0.0001	0.4		✓
Dibromochloromethane	mg/L	12	0.0084	ND	0.0048	0.0001	0.15		✓
THMs Ratio		12	0.20	0.07	0.12		1		✓

Volatile Organic Compounds									
Component Name	Units	Number of Samples	Max	Min	Average	Detection Limit	MAV DWSNZ	GV DWSNZ	Compliance DWSNZ 2005 (Revised 2008)
1,1,1-trichloroethane	mg/L	9	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	9	ND	ND	ND	0.0001			
1,2,4-trichlorobenzene	mg/L	9	ND	ND	ND	0.0001			
1,2-dichlorobenzene	mg/L	9	ND	ND	ND	0.0001	1.5	0.001	✓
1,2-dichloroethane	mg/L	9	ND	ND	ND	0.0001	0.03		✓
1,4-dichlorobenzene	mg/L	9	ND	ND	ND	0.0001	0.4	0.0003	✓
Benzene	mg/L	9	ND	ND	ND	0.0001	0.01		✓
Carbon tetrachloride	mg/L	9	ND	ND	ND	0.0001			
Ethylbenzene	mg/L	9	ND	ND	ND	0.0001	0.3	0.002	✓
Xylenes (total)	mg/L	9	ND	ND	ND	0.0001	0.6	0.02	✓
Styrene	mg/L	9	ND	ND	ND	0.0001	0.03	0.004	✓
Tetrachloroethene	mg/L	9	ND	ND	ND	0.0001	0.05		✓
Toluene	mg/L	9	ND	ND	ND	0.0001	0.8	0.03	✓
1,2-dichloroethene (cis + trans)	mg/L	9	ND	ND	ND	0.0001	0.06		✓
Trichloroethene	mg/L		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	10	ND	ND	ND	0.0001			
2-4-Dichlorophenoxyacetic acid	mg/L	10	ND	ND	ND	0.0001			
4-(2-4-Dichlorophenoxy) butano	mg/L	10	ND	ND	ND	0.0001			
Bentazone	mg/L	10	ND	ND	ND	0.0001			
Dichlorprop	mg/L	10	ND	ND	ND	0.0001	0.1		√
MCPA	mg/L	10	0.0025*	ND	0.0013	0.0001	0.002		
Mecoprop (MCP)	mg/L	10	ND	ND	ND	0.0001	0.01		√
Picloram	mg/L	10	ND	ND	ND	0.0001	0.2		√
Triclopyr	mg/L	10	ND	ND	ND	0.0001	0.1		√

\*On the 11th July 2016, a treated water sample collected from Wellsford WTP tested positive for MCPA, an acid herbicide. Immediate actions taken included temporarily supplying customers with an alternative source of treated drinking-water, enhancement of water treatment processes to allow for the effective removal of this herbicide at the treatment plant, and intensive network flushing.

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 CaCO <sub>3</sub>	34	66	28	45	1			
Aluminium	mg/L	37	1.60**	ND	0.11	0.005		0.1	
Bromate	mg/L	2	ND	ND	ND	0.005	0.01		√
Bromide	mg/L	2	0.02	0.02	0.02	0.01			
Calcium	mg/L	10	13.00	8.90	10.64	0.01			
Calcium Hardness	mg/L	10	32.00	22.00	26.40	0.025			
Chlorate	mg/L	2	ND	ND	ND	0.01	0.8		√
Chloride	mg/L	2	28.00	27.00	27.50	0.02		250	
Chlorine Residual	mg/L	122	1.86	0.14***	1.06	0.02	5	0.6-1.0	√
Chlorite	mg/L	2	ND	ND	ND	0.005	0.8		√
Colour	Hazen Units	3	ND	ND	ND	5		10	
Conductivity	mS/cm	9	32.0	21.6	26.1	0.5			
Cyanide	mg/L	2	ND	ND	ND	0.005	0.6		√
Fluoride	mg/L	9	0.04	ND	0.02	0.02	1.5		√
Iodide	mg/L	2	0.007	0.006	0.007	0.002			
Iron (Total)	mg/L	11	0.025	0.002	0.014	0.002		0.2	
Magnesium	mg/L	10	5.4	3.1	3.9	0.001			
Magnesium Hardness	mg/L	10	22	13	16	0.0041			
Manganese	mg/L	11	0.041	0.008	0.014	0.0005	0.4	0.04	√
pH	pH Units	122	8.0	7.0	7.4	0.1		7.0-8.5	
Potassium	mg/L	2	1.5	1.4	1.4	0.1			
Silicon	mg/L	2	17.0	16.0	16.5	0.1			
Sodium	mg/L	2	32.0	29.0	30.5	0.1			
Sulphate	mg/L	3	36.00	29.00	33.33	0.02		250	
Suspended Solids	mg/L	9	0.3	ND	ND	0.2		200	
Total Dissolved Solids	mg/L	9	170	120	154	15		1000	
Total Hardness	mg/L	10	55	35	42	0.029		200	
Total Organic Carbon TOC	mg/L	52	2.7	0.8	1.4	0.1			
Turbidity	NTU	122	2.5****	ND	0.21	0.1		2.5	

\*\* Heavy rainfall in the Auckland Region in March 2017 resulted in a significant deterioration in the quality of raw water supplied to this plant. This placed increased pressure on existing treatment processes, resulting in an elevated treated water aluminium result on the 14/03/2017.

\*\*\* A low chlorine residual result was reported by the Laboratory on the 22/08/2017. An investigation was completed which determined that the sample result was not representative of water being produced by the plant.

\*\*\*\* An elevated turbidity result was reported by the laboratory on the 24/06/2017. An investigation was completed which determined that the sample result was not representative of water being produced by the plant.



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	2	ND	ND	ND	0.005		1.5	
Dissolved Reactive Phosphorus	mg/L	8	0.007	ND	0.006	0.005			
Nitrate	mg/L as NO <sub>3</sub>	9	2.082	ND	1.120	0.002	50		✓
Nitrite	mg/L as NO <sub>2</sub>	9	ND	ND	ND	0.002	0.20		✓
TKN (Total Kjeldahl Nitrogen)	mg/L N	2	0.2	ND	0.1	0.1			
Total Phosphorus	mg/L	8	0.008	0.005	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	9	ND	ND	ND	2			
bis (2-ethylhexyl) phthalate	µg/L	9	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	9	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	9	ND	ND	ND	0.01	0.04		✓
Chlordane	µg/L	9	ND	ND	ND	0.01	0.2		✓
Lindane	µg/L	8	ND	ND	ND	0.01	2		✓
Heptachlor	µg/L	9	ND	ND	ND	0.01			
Heptachlor epoxide	µg/L	9	ND	ND	ND	0.01			
Hexachlorobenzene	µg/L	9	ND	ND	ND	0.1			
Methoxychlor	µg/L	9	ND	ND	ND	0.2	20		✓
Permethrin (cis + trans)	µg/L	9	ND	ND	ND	0.2			
DDT + isomers	µg/L	9	ND	ND	ND	0.2	1		✓
Procymidone	µg/L	9	ND	ND	ND	0.2	700		✓
Organonitrogen Herbicides									
Alachlor	µg/L	9	ND	ND	ND	0.2	20		✓
Atrazine	µg/L	9	ND	ND	ND	0.1	2		✓
Metolachlor	µg/L	9	ND	ND	ND	0.1	10		✓
Molinate	µg/L	9	ND	ND	ND	0.1	7		✓
Pendimethalin	µg/L	9	ND	ND	ND	0.2	20		✓
Propanil	µg/L	9	ND	ND	ND	0.1			
Simazine	µg/L	9	ND	ND	ND	0.1	2		✓
Terbutylazine	µg/L	9	ND	ND	ND	0.2	8		✓
Trifluralin	µg/L	9	ND	ND	ND	0.2	30		✓
Organophosphorus Pesticides									
Chlorpyrifos	µg/L	9	ND	ND	ND	0.2	40		✓
Diazinon	µg/L	9	ND	ND	ND	0.1			
Pyrimiphos methyl	µg/L	9	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	2	ND	ND	ND	0.001	0.02		✓
Arsenic	mg/L	2	0.0002	ND	0.0001	0.0001	0.01		✓
Barium	mg/L	2	0.0200	0.0140	0.0170	0.0002	0.7		✓
Boron	mg/L	2	0.016	0.013	0.015	0.005	1.4		✓
Cadmium	mg/L	2	ND	ND	ND	0.00005	0.004		✓
Chromium	mg/L	2	0.0005	ND	0.0003	0.0001	0.05		✓
Copper	mg/L	2	0.0031	0.0023	0.0027	0.0002	2		✓
Lead	mg/L	2	ND	ND	ND	0.0001	0.01		✓
Lithium	mg/L	2	0.0019	0.0005	0.0012	0.0001			
Mercury	mg/L	2	ND	ND	ND	0.00005	0.007		✓
Molybdenum	mg/L	2	ND	ND	ND	0.0003	0.07		✓
Nickel	mg/L	2	0.0006	0.0003	0.0004	0.0001	0.08		✓
Selenium	mg/L	2	ND	ND	ND	0.0005	0.01		✓
Zinc	mg/L	2	0.004	0.004	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	12	0.0170	0.0052	0.0092	0.0001	0.06		✓
Bromoform	mg/L	12	0.0037	ND	0.0021	0.0001	0.1		✓
Chloroform	mg/L	12	0.0190	0.0014	0.0063	0.0001	0.4		✓
Dibromochloromethane	mg/L	12	0.0120	0.0072	0.0096	0.0001	0.15		✓
THMs Ratio		12	0.39	0.14	0.26		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	9	ND	ND	ND	0.0001			
1,2,3-trichlorobenzene	mg/L	9	ND	ND	ND	0.0001			
1,2,4-trichlorobenzene	mg/L	9	ND	ND	ND	0.0001			
1,2-dichlorobenzene	mg/L	9	ND	ND	ND	0.0001	1.5	0.001	✓
1,2-dichloroethane	mg/L	9	ND	ND	ND	0.0001	0.03		✓
1,4-dichlorobenzene	mg/L	9	ND	ND	ND	0.0001	0.4	0.0003	✓
Benzene	mg/L	9	ND	ND	ND	0.0001	0.01		✓
Carbon tetrachloride	mg/L	9	ND	ND	ND	0.0001			
Ethylbenzene	mg/L	9	ND	ND	ND	0.0001	0.3	0.002	✓
Xylenes (total)	mg/L	9	ND	ND	ND	0.0001	0.6	0.02	✓
Styrene	mg/L	9	ND	ND	ND	0.0001	0.03	0.004	✓
Tetrachloroethene	mg/L	9	ND	ND	ND	0.0001	0.05		✓
Toluene	mg/L	9	ND	ND	ND	0.0001	0.8	0.03	✓
1,2-dichloroethene (cis + trans)	mg/L	9	ND	ND	ND	0.0001	0.06		✓
Trichloroethene	mg/L	9	ND	ND	ND	0.0001	0.02		✓