

Table 1 - Microbiological Testing (Performed Under Regulation 170/03)

	MAC (E. Coli & Total Coloforms)	Number of Samples	Range of E. Coli Results (Min - Max)	Range of Total Coliform Results (Min - Max)	Number of HPC Samples	Range of HPC Results (Min - Max)
Raw	N/A	52	0 - 8	0 - 81	N/A	N/A
Treated	0	52	0	0	52	<10 - 100
Kingston Drinking Water System	0	1378	0	0 - 4	723	<10 - 430

Note: Total Coliforms are an indicator of adverse water quality if detected

Table 2: Operational Testing (Performed under Schedule 7, 8, or 9 of Regulation 170/03)

Parameter	MAC	Number of Samples	Range of Results (min - max)	Parameter Description
Raw Water Turbidity (NTU)	N/A	Continuous	0.096 - 1.38	Turbidity is a measure of particles in water
Treated Water Turbidity (NTU)	N/A	Continuous	0.049 - 0.170	Turbidity is a measure of particles in water
Treated Chlorine Residual (mg/L)	See Parameter Description	Continuous	1.50 - 3.00	Recommended level of at least 0.20 mg/l in distribution system to maintain microbiological quality. 0.05 mg/l minimum required.
James Street Booster Station Chlorine Residual (mg/L)	See Parameter Description	Continuous	1.30 - 2.49	Recommended level of at least 0.20 mg/l in distribution system to maintain microbiological quality. 0.05 mg/l minimum required.
Kingston Drinking Water System Chlorine Residual (mg/L)	See Parameter Description	Continuous	0.43 - 2.63	Recommended level of at least 0.20 mg/l in distribution system to maintain microbiological quality. 0.05 mg/l minimum required.

Note: Turbidity range determined through in house lab testing

Parameter	MAC	Number of Samples	Range of Results (min - max)	Results Average
Filter #1 Effluent Turbidity (NTU)	1.0 for >15 minutes	Continuous	0.03 - 0.120	0.06
Filter #2 Effluent Turbidity (NTU)	1.0 for >15 minutes	Continuous	0.030 - 0.160	0.06
Filter #3 Effluent Turbidity (NTU)	1.0 for >15 minutes	Continuous	0.030 - 0.380	0.13
Filter #4 Effluent Turbidity (NTU)	1.0 for >15 minutes	Continuous	0.030 - 1.00	0.14
Filter #5 Effluent Turbidity (NTU)	1.0 for >15 minutes	Continuous	0.030 - 0.680	0.15
Filter #6 Effluent Turbidity (NTU)	1.0 for >15 minutes	Continuous	0.050 - 0.400	0.15

Table 3: Process Waste Facility Effluent Testing and Sampling

Parameter	MAC	Number of Samples	Results Average	Parameter Description
Total Suspended Solids (mg/L)	25	12	4	A measure of the particulates collected in the filtration process.
Chlorine Residual (mg/L)	>0	12	0.0167	Residual of 0 mg/L as required by the drinking water licence for this facility

Note: Testing and sampling in accordance with the requirements of the Ministry Drinking Water Licence

Table 4: Additional Process Waste Facility Effluent Testing and Sampling

Parameter	MAC	Number of Samples	Results Average	Parameter Description
BOD5 (mg/L)	N/A	12	2	Biological Oxygen Demand
Aluminum (mg/L)	N/A	12	0.55	Residual from treatment process
pH	N/A	12	7.93	An indicator of the acidity of water

Table 5: Raw Water Testing (Analyzed by Accredited Laboratories)

Parameter	MAC	Number of Samples	Results Range (min - max)	MAC Exceedance (Yes or No)	Parameter Description
Alkalinity as CaCO ₃ (mg/L)	N/A	4	85 - 98	No	A measure of the resistance of the water to the effects of acids. Expressed as calcium carbonate.
Aluminum (mg/L)	N/A	5	0.01 - 0.03	No	May be naturally present.
Ammonia Nitrogen (mg/L)	N/A	2	<0.01 - 0.03	No	Occurs naturally from organic nitrogen containing compounds.
Antimony (mg/L)	N/A	1	0.0001	No	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Arsenic (mg/L)	N/A	2	0.0008	No	Naturally occurring in surface waters / mine drainage
Barium (mg/L)	N/A	1	0.024	No	Erosion of natural deposits. Discharge from metal refineries, oil drilling wastes.
Boron (mg/L)	N/A	1	0.023	No	Erosion of natural deposits, industrial waste effluents.
Cadmium (mg/L)	N/A	1	<0.000015	No	Industrial discharge
Calcium (mg/L)	N/A	2	35.1 - 35.5	No	Naturally occurring.
Chloride (mg/L)	N/A	4	23.8 - 25.1	No	A common naturally occurring non-toxic material that may produce a salty taste in water.
Chromium (mg/L)	N/A	1	<0.002	No	Industrial residues

Parameter	MAC	Number of Samples	Results Range (min - max)	MAC Exceedance (Yes or No)	Parameter Description
Colour (TCU)	N/A	12	<2 - 3	No	Typically the result of organic matter in surface waters.
Conductivity (Us / cm)	N/A	2	296 - 305	No	A measure of ability of water to carry an electric current due to the presence of ions.
Copper (mg/L)	1 OG	2	<0.002	No	Domestic plumbing (Aesthetic objective)
Dissolved Organic Carbon (mg/L)	N/A	4	2.2 - 2.6	No	High DOC is an indicator of potential for chlorination by-product problems.
Fluoride (mg/L)	N/A	4	<0.1 - 0.2	No	Naturally occurring.
Hardness (mg/L)	N/A	4	123 - 129	No	Naturally occurring from dissolved calcium and magnesium.
Iron (mg/L)	N/A	4	<0.005	No	Leaching from natural deposits and plumbing materials, industrial wastes. (Aesthetic objective)
Lead (mg/L)	N/A	10	<0.00002 - 0.00004	No	Internal corrosion of household plumbing, erosion of natural deposits.
Manganese (mg/L)	N/A	4	<0.001 - 0.001	No	Erosion of natural deposits.
Microcystin (µg/L)	N/A	22	<0.15	No	Naturally occurring (released from blooms of blue-green algae)
Nitrate (mg/L)	N/A	4	0.2 - 0.3	No	Runoff from fertilizer use, erosion of natural deposits

Parameter	MAC	Number of Samples	Results Range (min - max)	MAC Exceedance (Yes or No)	Parameter Description
Nitrite (mg/L)	N/A	4	<0.1	No	A natural component of water at this level.
Nitrilotriacetic Acid (mg/L)	0.4	0	N/A	No	A human made organic compound
N-Nitrosodimethylamine (mg/L)	0.0009	0	N/A	No	An organic chemical often found as an industrial byproduct
pH	N/A	12	7.41 - 8.22	No	An indicator of the acidity of water.
Selenium (mg/L)	N/A	1	<0.001	No	Discharge from refineries, mines, chemical manufacture
Sodium (mg/L)	20	4	14.1 - 14.9	No	Occurs naturally in the earth's crust.
Sulphate (mg/L)	N/A	4	23 - 24	No	An inorganic constituent that may cause tastes at high levels.
Total Kjeldahl Nitrogen (mg/L)	N/A	4	0.2 - 0.5	No	Indicator of organic contamination or the potential for taste and odour problems.
Total Phenols (mg/L)	N/A	4	<0.002	No	A chemical compound found in nature and used in a wide variety of products.
Uranium (mg/L)	N/A	1	0.00026	No	Erosion of natural deposits.
Zinc (mg/L)	N/A	4	<0.005	No	An inorganic constituent that may cause tastes.

Table 6: Treated Water Schedule 23 Inorganic Parameters

Parameter	MAC	Number of Samples	Results Range (min - max)	MAC Exceedance (Yes or No)	Parameter Description
Antimony (mg/L)	0.006	2	0.0001	No	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Arsenic (mg/L)	0.025	3	0.0005 - 0.0006	No	Naturally occurring in surface waters / mine drainage
Barium (mg/L)	1	2	0.023 - 0.024	No	Erosion of natural deposits. Discharge from metal refineries, oil drilling wastes.
Boron (mg/L)	5	2	0.02 - 0.024	No	Erosion of natural deposits, industrial waste effluents.
Cadmium (mg/L)	0.005	2	<0.00015	No	Industrial discharge
Chromium (mg/L)	0.05	2	<0.002	No	Industrial residues
Mercury (mg/L)	0.001	2	<0.00002	No	Erosion of natural deposits, industrial discharges.
Selenium (mg/L)	0.01	2	< 0.001	No	Discharge from refineries, mines, chemical manufacture
Uranium (mg/L)	0.02	2	0.00010 - 0.00025	No	Erosion of natural deposits.

Table 7: Treated Water Schedule 24 Inorganic Parameters

Parameter	MAC	Number of Samples	Results Range (min - max)	MAC Exceedance (Yes or No)	Parameter Description
Alachlor (µg/L)	5	2	<0.3	No	Agricultural herbicide
Atrazine + N-Dealkylated Metabolites (µg/L)	5	2	<0.5	No	Agricultural herbicide
Azinphos-methyl (µg/L)	20	2	<1	No	Insecticide
Benzene (µg/L)	5	2	<0.5	No	Discharge from plastics manufacturing, leaking fuel tanks
Benzo(a)pyrene (µg/L)	0.01	2	<0.006	No	Formed from the incomplete burning of organic matter.
Bromoxynil (µg/L)	5	2	<0.5	No	Agricultural herbicide
Carbaryl (µg/L)	90	2	<3	No	Agricultural/Forestry/ Household insecticide
Carbofuran (µg/L)	90	2	<1	No	Agricultural insecticide
Carbon Tetrachloride (µg/L)	5	2	<0.2	No	Discharge from chemical and industrial activities
Chlorpyrifos (µg/L)	90	2	<0.5	No	Agricultural/ Household insecticide
Diazinon (µg/L)	20	2	<1	No	Agricultural/ Livestock Operation/ Residential insecticide

Parameter	MAC	Number of Samples	Results Range (min - max)	MAC Exceedance (Yes or No)	Parameter Description
Dicamba (µg/L)	120	2	<10	No	Agricultural herbicide
1,2-Dichlorobenzene (µg/L)	200	2	<0.5	No	Discharge from industrial chemical factories
1,4-Dichlorobenzene (µg/L)	5	2	<0.5	No	Discharge from industrial chemical factories
1,2-Dichloroethane (µg/L)	5	2	<0.5	No	Discharge from industrial chemical factories
1,1-Dichloroethylene (µg/L)	14	2	<0.5	No	Discharge from industrial chemical factories
Dichloromethane (µg/L)	50	2	<5	No	Discharge from pharmaceutical and chemical factories
2,4-Dichlorophenol (µg/L)	900	2	< 0.2	No	Industrial contamination/ reaction with chlorine
2,4-Dichlorophenoxy Acetic Acid (µg/L)	100	2	<10	No	Agricultural/ Residential herbicide
Diclofop-methyl (µg/L)	9	2	<0.9	No	Agricultural herbicide
Dimethoate (µg/L)	20	2	<1	No	Agricultural/ Livestock Operation/ Forestry insecticide
Diquat (µg/L)	70	2	<5	No	Agricultural/ Aquatic herbicide

Parameter	MAC	Number of Samples	Results Range (min - max)	MAC Exceedance (Yes or No)	Parameter Description
Diuron (µg/L)	150	2	<5	No	Agricultural/ Industrial/ herbicide
Glyphosate (µg/L)	280	2	<25	No	Agricultural/Forestry/ Household herbicide
Malathion (µg/L)	190	2	<5	No	Fruit & Vegetable / pest control insecticide
2-methyl-4-chlorophenoxyacetic Acid (µg/L)	0.1	2	< 10	No	Leaching and/or runoff from agricultural and other uses
Metolachlor (µg/L)	50	2	<3	No	Agricultural herbicide
Metribuzin (µg/L)	80	2	<3	No	Agricultural herbicide
Monochlorobenzene (µg/L)	80	1	<0.5	No	Discharge from industrial and agricultural chemical factories and dry cleaning facilities
Paraquat (µg/L)	10	1	<1	No	Agricultural/ Aquatic herbicide
Pentachlorophenol (µg/L)	60	2	<0.2	No	Pesticide/ wood preservative residue
Phorate (µg/L)	2	2	<0.3	No	Agricultural insecticide
Picloram (µg/L)	190	2	<15	No	Industrial herbicide

Parameter	MAC	Number of Samples	Results Range (min - max)	MAC Exceedance (Yes or No)	Parameter Description
Polychlorinated Biphenyls (µg/L)	3	2	<0.05	No	Residue from various industrial uses
Prometryne (µg/L)	1	2	<0.1	No	Agricultural herbicide
Simazine (µg/L)	10	2	<0.5	No	Agricultural herbicide or its residue
Terbufos (µg/L)	1	2	<0.5	No	Agricultural insecticide
Tetrachloroethylene (µg/L)	30	2	<0.5	No	Leaching from PVC pipes; discharge from factories, dry cleaners and auto shops (metal degreaser)
2,3,4,6-Tetrachlorophenol (µg/L)	100	2	<0.2	No	Wood preservative
Triallate (µg/L)	230	2	<10	No	Agricultural herbicide
Trichloroethylene (µg/L)	5	2	<0.5	No	Discharge from metal degreasing sites and other factories
2,4,6-Trichlorophenol (µg/L)	5	2	<0.2	No	Pesticide manufacturing
Trifluralin (µg/L)	45	2	<0.5	No	Agricultural herbicide
Vinyl Chloride (µg/L)	2	2	<0.2	No	Leaching from PVC pipes; discharge from plastics factories

Table 8: Other Regulatory Treated Water Parameters

Parameter	MAC	Number of Samples	Results Range (min - max)	MAC Exceedance (Yes or No)	Parameter Description
Fluoride (mg/L)	1.5	4	<0.1 - 0.2	No	Naturally occurring.
Nitrite (mg/L)	1	12	<0.1	No	A natural component of water at this level.
Nitrate (mg/L)	10	12	<0.2 - 0.4	No	Runoff from fertilizer use, erosion of natural deposits
Sodium (mg/L)	20	3	16.0 - 16.7	No	Occurs naturally in the earth's crust. Notification is required every 60 months if greater than 20 mg/L

Table 9: Treated Water Testing (Analyzed by Accredited Laboratories)

Parameter	MAC	Number of Samples	Results Range (min - max)	MAC Exceedance (Yes or No)	Parameter Description
Alkalinity CaCO ₃ (mg/L)	N/A	5	85 - 97	No	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Aluminum (mg/L)	0.1 OG	11	0.02 - 0.16	No	Naturally occurring in surface waters / mine drainage
Ammonia Nitrogen (mg/L)	N/A	4	< 0.01 - 0.02	No	Erosion of natural deposits. Discharge from metal refineries, oil drilling wastes.
Calcium (mg/L)	N/A	4	33.0 - 36.9	No	Erosion of natural deposits, industrial waste effluents.
Chloride (mg/L)	250	4	26.5 - 28.3	No	Industrial discharge
Colour (TCU)	5	12	<2	No	Industrial residues
Conductivity (Us/cm)	N/A	4	299 - 312	No	Erosion of natural deposits, industrial discharges.
Cyanide (mg/L)	0.2	0	N/A	No	Discharge from refineries, mines, chemical manufacture
Dissolved Organic Carbon (mg/L)	N/A	4	1.7 - 2.4	No	Erosion of natural deposits.
Gross Alpha (bg/L)	0.5	0	N/A	No	Measure of radioactivity
Gross Beta (bg/L)	1	0	N/A	No	Measure of radioactivity
Total Haloacetic acids (mg/L)	0.08 (Annual Average)	12	<0.0053 - 0.0194	No	By-product of drinking water disinfection with chlorine. Based on a running annual average
Hardness mg/L	100 OG	4	120 - 130	No	Naturally occurring from dissolved calcium and magnesium.

Parameter	MAC	Number of Samples	Results Range (min - max)	MAC Exceedance (Yes or No)	Parameter Description
Iron (mg/L)	0.3 AO	4	<0.005 - 0.006	No	Leaching from natural deposits and plumbing materials, industrial wastes. (Aesthetic objective)
Lead (mg/L)	0.01	10	<0.00002 - 0.00004	No	Internal corrosion of household plumbing, erosion of natural deposits.
Manganese (mg/L)	0.05 AO	4	<0.001 - 0.001	No	Erosion of natural deposits.
Microcystin (µg/L)	1.5	22	<0.15	No	Naturally occurring (released from blooms of blue-green algae)
Nitritotriacetic acid/NTA	N/A	0	N/A	No	A human made organic compound
N-Nitrosodimethylamine (µg/L)	N/A	0	N/A	No	An organic chemical often found as an industrial biproduct
pH	N/A	12	7.79 - 8.20	No	An indicator of the acidity of water.
Sulphate (mg/L)	500 OG	4	23 - 24	No	An inorganic constituent that may cause tastes at high levels.
Total Trihalomethanes (µg/L)	100 (Annual avg.)	11	10.0 - 41.0	No	By-product of chlorination. * The MAC for THMs of 100 µg/L is based on a running annual average.
Total Kjeldahl Nitrogen (mg/L)	N/A	4	<0.1 - 0.2	No	Indicator of organic contamination or the potential for taste and odour problems.
Tritium (bg/L)	N/A	0	N/A	No	A form of hydrogen
Zinc (mg/L)	5	4	< 0.005	No	An inorganic constituent that may cause tastes.

Table 10: Regulatory Distribution Water Testing

Parameter	MAC	Number of Samples	Results Range (min - max)	MAC Exceedance (Yes or No)	Parameter Description
Total Haloacetic Acids (mg/L)	0.08 (Annual avg.)	12	0.016	No	By-product of drinking water disinfection with chlorine. Based on a running annual average
Total Trihalomethanes (µg/L)	100 (Annual avg.)	12	44	No	By-product of chlorination. * The MAC for THMs of 100 µg/L is based on a running annual average.

Table 11: Lead Testing (Under Schedule 15.1 of Regulation 170/03)

Parameter	MAC mg/L	Number of Sample Locations	Results Exceeding 0.01 mg/L	Range mg/L (min - max)	pH Range (min - max)	Alkalinity mg/L (CaCO₃) Range (min - max)
Residential	0.01	14	1	0.00002 - 0.0194	7.01 - 7.87	N/A
Non-Residential	0.01	8	0	0.00005 - 0.00298	6.83 - 7.74	96 - 102

Table 12: Distribution Water Testing (Analyzed by Accredited Laboratories)

Parameter	MAC	Number of Samples	Results Range (min - max)	MAC Exceedance	Parameter Description
Alkalinity CaCO ₃ (mg/L)	N/A	18	82 - 102	No	A measure of the resistance of the water to the effects of acids. Expressed as calcium
Aluminum (mg/L)	0.1 OG	8	0.05 - 0.10	No	May be naturally present or a residual from the coagulation process.
Ammonia Nitrogen (mg/L)	N/A	8	<0.01 - 0.03	No	Occurs naturally from organic nitrogen containing compounds.
Arsenic (mg/L)	0.025	2	0.0004 - 0.0005	No	Naturally occurring in surface waters / mine drainage
Benzo(a)pyrene (µg/L)	N/A	0	N/A	No	Formed during the combustion of organic matter
Calcium (mg/L)	N/A	8	33.3 - 36.5	No	Naturally occurring.
Chloride (mg/L)	250	8	27.1 - 28.7	No	A common naturally occurring non-toxic material that may produce a salty taste in water.
Colour (TCU)	5	2	<2	No	Typically the result of organic matter in surface waters.
Conductivity (Us/cm)	N/A	8	301 - 316	No	A measure of ability of water to carry an electric current due to the presence of ions.

Parameter	MAC	Number of Samples	Results Range (min - max)	MAC Exceedance (Yes or No)	Parameter Description
Copper (mg/L)	1 OG	8	<0.002 - 0.007	No	Domestic plumbing (Aesthetic objective)
Cyanide (mg/L)	0.2	0	N/A	No	Compound used in a variety of industrial processes
Dissolved Organic Carbon (mg/L)	5 AO	8	1.5 - 2.4	No	High DOC is an indicator of potential for chlorination by-product problems.
Fluoride (mg/L)	1.5	2	<0.1	No	Naturally occurring.
Gross Alpha (bg/L)	0.5	0	N/A	No	Measure of radioactivity
Gross Beta (bg/L)	1	0	N/A	No	Measure of radioactivity
Hardness (mg/L)	100 OG	8	120 - 128	No	Naturally occurring from dissolved calcium and magnesium.
Iron (mg/L)	0.3 AO	8	<0.005 - 0.048	No	Leaching from natural deposits and plumbing materials, industrial wastes. (Aesthetic objective)
Manganese (mg/L)	0.05 AO	8	<0.001 - 0.005	No	Erosion of natural deposits.

Parameter	MAC	Number of Samples	Results Range (min - max)	MAC Exceedance (Yes or No)	Parameter Description
Nitrite (mg/L)	1	2	<0.1	No	A natural component of water at this level.
Nitrate (mg/L)	10	2	0.2 - 0.3	No	Runoff from fertilizer use, erosion of natural deposits
Nitritotriacetic Acid (mg/L)	0.4	0	N/A	No	A human made organic compound
Nitrosodimethylamine (µg/l)	0.0009	0	N/A	No	An organic chemical often found as an industrial byproduct
pH	6.5–8.5 OG	8	7.79 - 8.05	No	An indicator of the acidity of water.
Sodium (mg/L)	20	8	14.6 - 16.6	No	Occurs naturally in the earth's crust.
Sulphate (mg/L)	500 OG	8	23 - 25	No	An inorganic constituent that may cause tastes at high levels.
Total Kjeldahl Nitrogen (mg/L)	N/A	8	0.1 - 0.2	No	Indicator of organic contamination or the potential for taste and odour problems.
Tritium (bg/L)	7000	0	N/A	No	A form of hydrogen
Zinc (mg/L)	5	8	<0.005 - 0.123	No	An inorganic constituent that may cause tastes.

Table 13: Raw Water Testing (Analyzed by In House Laboratory)

Parameter	MAC	Number of Samples	Average Results	MAC Exceedance (Yes or No)	Parameter Description
Alkalinity (mg/L)	N/A	50	93	No	A measure of the resistance of the water to the effects of acids. Expressed as calcium carbonate.
Hardness (mg/L)	N/A	50	120	No	Naturally occurring from dissolved calcium and magnesium.
pH	N/A	365	7.39	No	An indicator of the acidity of water
Temperature (Degrees Celsius)	N/A	362	17.06	No	Intensity of heat present in a substance or object

Table 14: Treated Water Testing (Analyzed by In House Laboratory)

Parameter	MAC	Number of Samples	Average Results	MAC Exceedance (Yes or No)	Parameter Description
Alkalinity (mg/L)	N/A	49	91	No	A measure of the resistance of the water to the effects of acids. Expressed as calcium carbonate.
Aluminum (mg/L)	0.1 OG	333	0.08	No	May be naturally present or a residual from the coagulation process.
Hardness (mg/L)	100 OG	49	125	No	Naturally occurring from dissolved calcium and magnesium.
pH	6.5 - 8.5 OG	365	7.49	No	An indicator of the acidity of water.
Temperature (Degrees Celsius)	N/A	365	12.3	No	Intensity of heat present in a substance or objec