


<b>Montréal</b>  Division de l'expertise technique	<b>MUNICIPAL DRINKING WATER PRODUCED          BY ATWATER AND CHARLES-J DES          BAILLETS DRINKING WATER TREATMENT          PLANTS</b>	<b>2012</b>
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PARAMETERS	HEALTH CANADA RECOMMENDATIONS	QUÉBEC REGULATION DRINKING WATER QUALITY (Q-2,r.40)	MONTREAL'S DRINKING WATER		
			CONCENTRATION		
			MIN.	MOY.	MAX
<b>PHYSICAL PROPERTIES</b>					
Specific Conductivity (µS/cm) **	-	-	275	304	323
Color (T.C.U.) **	≤ 15 <sup>1</sup>	-	0	1	4
Agressivity index pH+log(alk*hard.) **	-	-	11.7	12.0	12.2
Ryznar index (2pHs-pH) **	-	-	-0.5	8.6	9.4
Langelier's saturation index (pH-pHs) **	-	-	-0.79	-0.35	0.24
pH	6,5-8,5	6,5-8,5	7.3	7.5	8.0
Solids (mg/L) **	-	-	138	143	148
Total solids(mg/L) **	≤ 500 <sup>1</sup>	-	171	178	185
Temperature (°C) **	-	-	0	12	27
Turbidity (N.T.U.)	≤ 1 <sup>5</sup>	≤ 5 / ≤ 1 <sup>2</sup>	0.12	0.24	0.60
<b>BIOLOGICAL CHARACTERISTICS</b>					
			ANNUAL AVERAGE (5081 samples)		
Total coliforms (C.F.U./100mL)	> 90 % ABS <sup>4</sup>	> 90 % ABS <sup>4</sup>	99,9 % ABS <sup>4</sup>		
E.coli (C.F.U./100mL)	ABS <sup>4</sup>	< 1 or ABS <sup>4</sup>	100 % ABS <sup>4</sup>		
HPC (C.F.U./mL)	-	-	< 0.90 (geometric mean)		
<b>INORGANIC AND ORGANIC CHEMICAL CHARACTERISTICS (mg/L)</b>					
			MIN.	MOY.	MAX
Antimony	≤ 0,006	≤ 0,006	0.00016	0.00018	0.00020
Alkalinity (eq.CaCO <sub>3</sub> ) **	-	-	82	87	91
Aluminum (Al)	≤ 0,1	-	0.00309	0.00739	0.01906
Silver (Ag)	-	-	<0.00003	0.00005	0.00009
Arsenic (As)	≤ 0,01	≤ 0,010	0.00077	0.00085	0.00092
Barium (Ba)	≤ 1	≤ 1,0	0.02200	0.02200	0.02200
Bore (B)	≤ 5	≤ 5.0	0.05	0.05	0.05
Bromated (BrO <sub>3</sub> )*	≤ 0,01	≤ 0,010	<0.005	<0.005	<0.005
Cadmium (Cd)	≤ 0,005	≤ 0,005	<0.00003	<0.00003	<0.00003
Calcium (Ca)	-	-	29.87	32.50	39.67
Total Organic Carbon (TOC) **	-	-	1.30	2.17	2.83
Chlorides (Cl) **	≤ 250 <sup>1</sup>	-	23.69	25.33	26.92
Chromium (Cr)	≤ 0,05	≤ 0,050	0.0001	0.0001	0.0001
Cobalt (Co)	-	-	<0.00002	0.00003	0.00004
Copper (Cu)	≤ 1,0 <sup>1</sup>	≤ 1,0	0.1100	0.1400	0.1700
Cyanides (CN)	≤ 0,2	≤ 0,20	<0.004	0.005	0.005
Total Hardness ( eq.CaCO <sub>3</sub> ) **	-	-	109	117	124
Iron (Fe)	≤ 0,3 <sup>1</sup>	-	0.01262	0.02494	0.06874
Fluorides (F)	≤ 1,5	≤ 1,50	0.13	0.13	0.13
Magnesium (Mg)	-	-	7.31	8.31	9.20
Manganese (Mn)	≤ 0,05 <sup>1</sup>	-	0.00009	0.00027	0.00078
Mercury (Hg)	≤ 0,001	≤ 0,001	<0.00003	<0.00003	<0.00003
Nickel (Ni)	-	-	0.00040	0.00057	0.00089
Nitrites + nitrates (N)	≤ 45	≤ 10.0	0.180	0.284	0.420
Phosphates (total) (P) **	-	-	<0.006	0.007	0.007
Lead (Pb)	≤ 0,01	≤ 0,010	0.00096	0.00097	0.00097
Potassium (K)	-	-	1.38	1.58	1.81
Selenium (Se)	≤ 0,01	≤ 0,010	0.0002	0.0002	0.0002
Silica (SiO <sub>2</sub> ) **	-	-	0.43	0.83	1.21
Sodium (Na)	≤ 200 <sup>1</sup>	-	11.22	12.88	15.13
Sulfates (SO <sub>4</sub> ) **	≤ 500 <sup>1</sup>	-	23.64	25.33	27.46
Uranium (U)	≤ 0,02	≤ 0,020	0.00037	0.00037	0.00038
Zinc (Zn)	≤ 5,0 <sup>1</sup>	-	<0.00044	0.00131	0.00375

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PARAMETERS	HEALTH CANADA RECOMMENDATIONS	QUÉBEC REGULATION DRINKING WATER QUALITY (Q-2,r.40)	MONTRÉAL'S DRINKING WATER	
			MAXIMUM DETECTED	DETECTION LIMIT
<b>ORGANIC COMPOUNDS</b>				
<b>CARBAMATES (µg/L)</b>				
Bendiocarb*	≤ 40	≤ 40	N.D.	0.3
Carbaryl*	≤ 90	≤ 90	N.D.	0.4
Carbofuran*	≤ 90	≤ 90	N.D.	0.3
<b>VOLATILE ORGANIC COMPOUNDS (VOC) (µg/L)</b>				
1,1,1,2-Tétrachloroethane	-	-	N.D.	0,08
1,1,1-Trichloroethane	-	-	N.D.	0,05
1,1,2,2-Tétrachloroethane	-	-	N.D.	0,06
1,1,2-Trichloroethane	-	-	N.D.	0,05
1,1-Dichloroethane	-	-	N.D.	0,06
1,1-Dichloroethylene	≤ 14	≤ 14	N.D.	0,07
1,1-Dichloropropene	-	-	N.D.	0,06
1,2,3-Trichlorobenzene	-	-	N.D.	0,04
1,2,3-Trichloropropane	-	-	N.D.	0,09
1,2,4-Trichlorobenzene	-	-	N.D.	0,04
1,2,4-Triméthylbenzene	-	-	N.D.	0,04
1,2-Dibromo-3-chloropropane	-	-	N.D.	0,24
1,2-Dibromoethane	-	-	N.D.	0,04
1,2-Dichlorobenzene	≤ 200	≤ 200	N.D.	0,07
1,2-Dichloroethane	≤ 5	≤ 5	N.D.	0,05
1,2-Dichloropropane	-	-	N.D.	0,06
1,3,5-Triméthylbenzene	-	-	N.D.	0,02
1,3-Dichlorobenzene	-	-	N.D.	0,06
1,3-Dichloropropane	-	-	N.D.	0,02
1,4-Dichlorobenzene	≤ 5	≤ 5	N.D.	0,05
1-Chlorobutane	-	-	N.D.	0,08
1-Propene,3-chloro	-	-	N.D.	0,20
2,2-Dichloropropane	-	-	N.D.	0,06
2-Butanone	-	-	N.D.	0,22
2-Chlorotoluene	-	-	N.D.	0,06
2-Nitropropane	-	-	N.D.	0,31
4-Chlorotoluene	-	-	N.D.	0,04
4-Isopropyltoluene	-	-	N.D.	0,03
Acrylonitrile	-	-	N.D.	0,13
Benzene	≤ 5	≤ 5	N.D.	0,05
Bromobenzene	-	-	N.D.	0,05
Bromochloromethane	-	-	N.D.	0,07
Bromoform	-	See note 3	0.5	0,09
Bromodichloromethane	-	See note 3	13.9	0,04
Bromomethane	-	-	N.D.	0,15
Chloroacetonitrile	-	-	N.D.	1,38
Chlorobenzene	≤ 80	≤ 80	N.D.	0,05
Chlorodibromomethane	-	See note 3	6.2	0,04
Chloroethane	-	-	N.D.	0,19
Chloroform	-	See note 3	34.4	0,05
Chloromethane	-	-	N.D.	0,08
Vinyl chloride	≤ 2	≤ 2	N.D.	0,07

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cis-1,2-Dichloroethylene	-	-	N.D.	0,07
cis-1,3-Dichloropropene	-	-	N.D.	0,11
Dibromomethane	-	-	N.D.	0,06
Dichlorodifluoromethane	-	-	N.D.	0,08
Dichloromethane	≤ 50	≤ 50	N.D.	0,09
Diethylether	-	-	N.D.	0,07
Carbon disulfide	-	-	N.D.	0,08
Ethylbenzene	≤ 2,4 <sup>1</sup>	-	N.D.	0,03
Hexachlorobutadiene	-	-	N.D.	0,08
Hexachloroethane	-	-	N.D.	0,14
Isopropylbenzene	-	-	N.D.	0,03
Methacrylonitrile	-	-	N.D.	0,12
Methyl acrylate	-	-	N.D.	0,10
Methyl methacrylate	-	-	N.D.	0,19
MTBE(methyl tert-butyl ether)	-	-	N.D.	0,05
m-Xylene + p-Xylene + o-Xylene	≤ 300 <sup>1</sup>	-	N.D.	0,09
Naphthalene	-	-	N.D.	0,11
n-Butylbenzene	-	-	N.D.	0,04
n-Propylbenzene	-	-	N.D.	0,04
Propionitrile	-	-	N.D.	0,27
sec-Butylbenzene	-	-	N.D.	0,10
Styrene	-	-	N.D.	0,07
tert-Butylbenzene	-	-	N.D.	0,10
Tetrachloroethylene	≤ 30	≤ 30	N.D.	0,05
Carbon tetrachloride	5	≤ 5	N.D.	0,07
Tetrahydrofurane	-	-	N.D.	0,46
Toluene	≤ 24 <sup>1</sup>	-	D.	0,03
trans-1,2-Dichloroethylene	-	-	N.D.	0,06
trans-1,3-Dichloropropene	-	-	N.D.	0,10
Trans-1,4-dichloro-2-butene	-	-	N.D.	0,14
Trichloroethylene	≤ 5	≤ 50	N.D.	0,06
Trichlorofluoromethane	-	-	N.D.	0,12
Trihalomethanes (THM) (total)	-	See note 3	51.5 <sup>6</sup>	0,22
Trihalomethanes (THM) (total) – Annual mean concentration	≤ 100	≤ 80 <sup>3</sup>	49.2	0,22
<b>2,3,4,6-Tetrachlorophenol *</b>				
	≤ 100	≤ 100	N.D.	0,05
<b>2,4 -Dichlorophenol *</b>				
	≤ 900	≤ 900	N.D.	0,05
<b>2,4,6-Trichlorophenol *</b>				
	≤ 5	≤ 5	0,15	0,05
<b>Pentachlorophenol *</b>				
	≤ 60	≤ 60	N.D.	0,05
<b>GLYPHOSATE AND AMPA (µg/L)</b>				
Glyphosate*	≤ 280	≤ 280	N.D.	1,5
<b>PAH (µg/L)</b>				
Benzo (a) pyrene *	≤ 0,01	≤ 0,01	N.D.	0,003

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<b>TRIAZINES HERBICIDES (µg/L)</b>				
Atrazine and metabolites*	≤ 5	≤ 5	N.D.	1
Cyanazine*	≤ 10	≤ 10	N.D.	0.2
Metribuzine*	≤ 80	≤ 80	N.D.	0.3
Simazine*	≤ 10	≤ 10	N.D.	0.3
<b>CHLOROPHOXY ACID AND TRICHLOROACETATE PESTICIDES (µg/L)</b>				
2,4-D*	≤ 100	≤ 100	N.D.	0.1
Dicamba*	≤ 120	≤ 120	N.D.	0.3
Dinoseb*	≤ 10	≤ 10	N.D.	0.3
Picloram*	≤ 190	≤ 190	N.D.	0.1
<b>ORGANOCHLORINE PESTICIDES (µg/L)</b>				
Metolachlor*	≤ 50	≤ 50	N.D.	0.02
Methoxychlor *	≤ 900	≤ 900	N.D.	0.04
Trifluralin*	≤ 45	≤ 45	N.D.	0.1
<b>ORGANOPHOSPHORUS PESTICIDES (µg/L)</b>				
Azinphos-methyl*	≤ 20	≤ 20	N.D.	0.05
Chlorpyrifos*	≤ 90	≤ 90	N.D.	0.04
Diazinon *	≤ 20	≤ 20	N.D.	0.07
Dimethoate*	≤ 20	≤ 20	N.D.	0.3
Diuron*	≤ 150	≤ 150	N.D.	0.8
Malathion*	≤ 190	≤ 190	N.D.	0.2
Parathion *	≤ 50	≤ 50	N.D.	0.2
Phorate*	≤ 2	≤ 2	N.D.	0.4
Terbufos*	≤ 1	≤ 1	N.D.	0.2
<b>OTHERS (µg/L)</b>				
Nitritotriacetic acid	≤ 400	≤ 400	N.D.	25
Bromoxynil*	≤ 5	≤ 5	N.D.	0.4
Methyl-Diclofop*	≤ 9	≤ 9	N.D.	0.5
Diquat *	≤ 70	≤ 70	N.D.	1
Paraquat *	≤ 10	≤ 10	N.D.	0.5

- \* : Analyzed by an outside accredited laboratory  
\*\* : At the exit of water treatment plant  
N.D. : Not detected  
D. : Detected, but cannot determine quantity

Notes :

- 1 Esthetical or organoleptic reasons
- 2 Turbidity must be equal or under 5 NTU and must not overpass 1,0 NTU for more than 5 % of total measures taken within 30 days.
- 3 The annual mean concentration of total THM ( chloroform, bromodichloromethane, chlorodibromomethane and bromoform ) must not exceed 80 µg/L ( samples taken at the end of drinking water distribution network )
- 4 ABS : absence
- 5 Health reasons objectives
- 6 Maximum obtained for a sampling site