

Montréal  Division de l'expertise technique	MUNICIPAL DRINKING WATER PRODUCED BY ATWATER AND CHARLES-J DES BAILLETS DRINKING WATER TREATMENT PLANTS	2011
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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
PHYSICAL PROPERTIES					
Specific Conductivity (µS/cm) **	-	-	259	303	369
Color (T.C.U.) **	≤ 15 ¹	-	<1	2	6
Agressivity index pH+log(alk*hard.) **	-	-	11.6	11.9	12.2
Ryznar index (2pHs-pH) **	-	-	8.0	8.9	10.1
Langelier's saturation index (pH-pHs) **	-	-	-1.57	-0.58	0.63
pH	6,5-8,5	6,5-8,5	7.4	7.6	7.9
Solids (mg/L) **	-	-	129	141	148
Total solids(mg/L) **	≤ 500 ¹	-	167	173	184
Temperature (°C) **	-	-	0	11	26
Turbidity (N.T.U.)	≤ 1 ⁵	≤ 5 / ≤ 1 ²	0.12	0.27	0.79
BIOLOGICAL CHARACTERISTICS					
			ANNUAL AVERAGE (5081 samples)		
Total coliforms (C.F.U./100mL)	> 90 % ABS ⁴	> 90 % ABS ⁴	99,9 % ABS ⁴		
E.coli (C.F.U./100mL)	ABS ⁴	< 1 or ABS ⁴	100 % ABS ⁴		
HPC (C.F.U./mL)	-	-	< 1,10 (geometric mean)		
INORGANIC AND ORGANIC CHEMICAL CHARACTERISTICS (mg/L)					
			MIN.	MOY.	MAX
Antimony	≤ 0,006	≤ 0,006	0.00012	0.00013	0.00014
Alkalinity (eq.CaCO ₃) **	-	-	73	86	95
Aluminum (Al)	≤ 0,1	-	0.00365	0.01045	0.02574
Silver (Ag)	-	-	<0.00004	<0.00004	<0.00004
Arsenic (As)	≤ 0,01	≤ 0,025	0.00099	0.00102	0.00105
Barium (Ba)	≤ 1	≤ 1,0	0.02218	0.02219	0.02220
Bore (B)	≤ 5	≤ 5	0.03	0.04	0.04
Bromated (BrO ₃)*	≤ 0,01	≤ 0,010	<0.0005	<0.0005	<0.0005
Cadmium (Cd)	≤ 0,005	≤ 0,005	<0.00003	0.00004	0.00004
Calcium (Ca)	-	-	26.42	31.37	36.70
Total Organic Carbon (TOC) **	-	-	1.73	2.29	3.22
Chlorides (Cl) **	≤ 250 ¹	-	20.73	24.0	26.42
Chromium (Cr)	≤ 0,05	≤ 0,05	0.0006	0.0007	0.0008
Cobalt (Co)	-	-	<0.00003	0.00005	0.00007
Copper (Cu)	≤ 1,0 ¹	≤ 1,0	0.0543	0.0729	0.0914
Cyanides (CN)	≤ 0,2	≤ 0,2	<0.004	<0.004	<0.004
Total Hardness (eq.CaCO ₃) **	-	-	99	116	122
Iron (Fe)	≤ 0,3 ¹	-	0.00730	0.01970	0.03410
Fluorides (F)	≤ 1,5	≤ 1,5	0.11	0.11	0.11
Magnesium (Mg)	-	-	6.62	8.14	9.89
Manganese (Mn)	≤ 0,05 ¹	-	0.00012	0.00028	0.00060
Mercury (Hg)	≤ 0,001	≤ 0,001	<0.00004	<0.00004	<0.00004
Nickel (Ni)	-	-	0.00051	0.00062	0.00074
Nitrites + nitrates (N)	≤ 45	≤ 10	0.250	0.315	0.390
Phosphates (total) (P) **	-	-	0.007	0.007	0.007
Lead (Pb)	≤ 0,01	≤ 0,010	0.00037	0.00065	0.00092
Potassium (K)	-	-	1.30	1.55	1.88
Selenium (Se)	≤ 0,01	≤ 0,010	<0.0004	<0.0004	<0.0004
Silica (SiO ₂) **	-	-	0.67	0.98	1.41
Sodium (Na)	≤ 200 ¹	-	10.01	12.66	15.51
Sulfates (SO ₄) **	≤ 500 ¹	-	20.01	24.12	25.99
Uranium (U)	≤ 0,02	≤ 0,020	0.00033	0.00033	0.00033
Zinc (Zn)	≤ 5,0 ¹	-	<0.00044	0.00197	0.00429

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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
ORGANIC COMPOUNDS				
CARBAMATES (µg/L)				
Bendiocarb*	≤ 40	≤ 40	N.D.	0,2
Carbaryl*	≤ 90	≤ 90	N.D.	0,2
Carbofuran*	≤ 90	≤ 90	N.D.	0,2
VOLATILE ORGANIC COMPOUNDS (VOC) (µg/L)				
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	0,4	0,09
Bromodichloromethane	-	See note 3	14,5	0,04
Bromomethane	-	-	N.D.	0,15
Chloroacetonitrile	-	-	N.D.	1,38
Chlorobenzene	≤ 80	≤ 80	N.D.	0,05
Chlorodibromomethane	-	See note 3	5,4	0,04
Chloroethane	-	-	N.D.	0,19
Chloroform	-	See note 3	69,3	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 ¹	-	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 ¹	-	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 ¹	-	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	83.6 ⁶	0,22
Trihalomethanes (THM) (total) – Annual mean concentration	≤ 100	≤ 80 ³	40.0	0,22
2,3,4,6-Tetrachlorophenol *				
	≤ 100	≤ 100	N.D.	0,4
2,4 -Dichlorophenol *				
	≤ 900	≤ 900	N.D.	0,6
2,4,6-Trichlorophenol *				
	≤ 5	≤ 5	N.D.	0,4
Pentachlorophenol *				
	≤ 60	≤ 60	N.D.	0,4
GLYPHOSATE AND AMPA (µg/L)				
Glyphosate*	≤ 280	≤ 280	N.D.	10
PAH (µg/L)				
Benzo (a) pyrene *	≤ 0,01	≤ 0,01	N.D.	0,003

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			MAXIMUM DETECTED	DETECTION LIMIT
TRIAZINES HERBICIDES (µg/L)				
Atrazine and metabolites*	≤ 5	≤ 5	N.D.	0,3
Cyanazine*	≤ 10	≤ 10	N.D.	0,2
Metribuzine*	≤ 80	≤ 80	N.D.	0,2
Simazine*	≤ 10	≤ 10	N.D.	0,2
CHLOROPHOXY ACID AND TRICHLOROACETATE PESTICIDES (µg/L)				
2,4-D*	≤ 100	≤ 100	N.D.	0,03
Dicamba*	≤ 120	≤ 120	N.D.	0,6
Dinoseb*	≤ 10	≤ 10	N.D.	0,4
Picloram*	≤ 190	≤ 190	N.D.	0,06
ORGANOCHLORINE PESTICIDES (µg/L)				
Metolachlor*	≤ 50	≤ 50	N.D.	0,2
Methoxychlor *	≤ 900	≤ 900	N.D.	0,03
Trifluralin*	≤ 45	≤ 45	N.D.	0,2
ORGANOPHOSPHORUS PESTICIDES (µg/L)				
Azinphos-methyl*	≤ 20	≤ 20	N.D.	0,3
Chlorpyrifos*	≤ 90	≤ 90	N.D.	0,2
Diazinon *	≤ 20	≤ 20	N.D.	0,2
Dimethoate*	≤ 20	≤ 20	N.D.	0,2
Diuron*	≤ 150	≤ 150	N.D.	0,3
Malathion*	≤ 190	≤ 190	N.D.	0,2
Parathion *	≤ 50	≤ 50	N.D.	0,2
Phorate*	≤ 2	≤ 2	N.D.	0,2
Terbufos*	≤ 1	≤ 1	N.D.	0,2
OTHERS (µg/L)				
Nitritotriacetic acid	≤ 400	≤ 400	N.D.	25
Bromoxynil*	≤ 5	≤ 5	N.D.	0,4
Methyl-Diclofop*	≤ 9	≤ 9	N.D.	0,2
Diquat *	≤ 70	≤ 70	N.D.	15
Paraquat *	≤ 10	≤ 10	N.D.	0,60

- * : 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 0,5 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