



City of Calgary Bears paw Water Treatment Plant Summary

January 01 - December 31, 2018

PARAMETER	UNITS	Bears paw Water Treatment Plant Treated Water (Entering the Distribution System)			Maximum Acceptable Concentration or Guideline ¹	Common Source
		Minimum	Maximum	Average		
Alkalinity, Total	mg/L as CaCO ₃	88	139	118	No Guidelines	Erosion of natural deposits in watershed.
Aluminum	mg/L	0.023	0.174	0.066	0.100 (O) (Annual Average)	Plant treatment.
Ammonia	mg/L as N	<0.05			No Guidelines	Naturally occurring; released from agricultural or industrial wastes.
Antimony	mg/L	<0.0005			0.006	Erosion of natural deposits in watershed
Arsenic	mg/L	<0.0005			0.01	Erosion of natural deposits in watershed
Atrazine + metabolites	mg/L	<0.002			0.005	Leaching and/or runoff from agricultural use
Azinphos - methyl	mg/L	<0.002			0.02	Leaching and/or runoff from agricultural use
Barium	mg/L	0.025	0.043	0.033	1	Erosion of natural deposits in watershed
Benzene	mg/L	<0.0005			0.005	Releases or spills from industrial use
Benzo[a]pyrene	mg/L	<0.000005			0.00004	Distribution System materials
Beryllium	mg/L	<0.0005			No Guidelines	Contamination from ceramic applications and manufacturing of aerospace, electronics and mechanical industries
Bicarbonate	mg/L as CaCO ₃	88	139	118	No Guidelines	Erosion of natural deposits in watershed
Boron	mg/L	0.003	0.007	0.005	5	Naturally occurring; leaching or runoff from industrial use
Bromate	mg/L	<0.01			0.01	Possible contamination in hypochlorite solution
Bromoxynil	mg/L	<0.0002			0.005	Leaching and/or runoff from agricultural use
Cadmium	mg/L	<0.0005			0.005	Erosion of natural deposits in watershed
Calcium	mg/L	35	52	40	No Guidelines	Erosion of natural deposits in watershed
Carbaryl	mg/L	<0.002			0.09	Leaching and/or runoff from agricultural use
Carbofuran	mg/L	<0.005			0.09	Leaching and/or runoff from agricultural use
Carbonate	mg/L as CaCO ₃	<20			No Guidelines	Erosion of natural deposits in watershed
Carbon Tetrachloride	mg/L	<0.001			0.002	Industrial effluents and leaching from hazardous waste sites
Chloramines, Total ³	mg/L	<0.07	0.08	<0.07	3	Formed in the presence of both chlorine and ammonia
Chlorate	mg/L	<0.10			1	Possible contamination in hypochlorite solution
γ-Chlordane	mg/L	<0.00001			No Guidelines	Leaching and/or runoff from agricultural use
Chloride	mg/L	3.6	5.9	4.5	250 (A)	Naturally occurring, dissolved salt deposits, highway salt
Chlorine, free	mg/L	0.81	1.24	1.02	No Guidelines	Plant treatment
Chlorite	mg/L	<0.10			1	Possible contamination in hypochlorite solution
Chlorpyrifos	mg/L	<0.002			0.09	Leaching and/or runoff from agricultural use
Chromium	mg/L	<0.0005			0.05	Erosion of natural deposits in watershed
Cobalt	mg/L	<0.0005			No Guidelines	Erosion of natural deposits in watershed.
Coliforms, <i>E. coli</i>	MPN/100mL	<1			0	Domestic animals, wildlife and human waste.
Coliforms, Total	MPN/100mL	<1			0	Soil, domestic animals and wildlife.
Color	TCU	<2			15 (A)	Erosion of natural deposits in watershed.
Conductivity at 25°C	uS/cm	279	381	339	No Guidelines	Leaching and/or runoff from agricultural use
Copper	mg/L	<0.0005	0.0007	0.0005	1.000 (A)	Erosion of natural deposits in watershed.
Cryptosporidium, Min. Log Reduction Ratio ³	no units	1.33			Treatment Goal	Domestic animals, wildlife and human waste.
Cyanide	mg/L	<0.0020			0.2	Industrial and mining effluents; Release from organic compounds.
Cyanobacterial toxins – total microcystin	mg/L	<0.00014			0.0015	Naturally occurring; released from blooms of blue-green algae
Diazinon	mg/L	<0.001			0.02	Run off from agricultural or other uses.
Dicamba	mg/L	<0.0002			0.12	Leaching and/or runoff from agricultural use
1,2-Dichlorobenzene	mg/L	<0.0005			0.2	Releases or spills from industrial use
1,4-Dichlorobenzene	mg/L	<0.0005			0.005	Releases or spills from industrial use
2,4-DDT	mg/L	<0.00001			No Guidelines	Leaching and/or runoff from agricultural use
4,4'-DDT	mg/L	<0.00001			No Guidelines	Leaching and/or runoff from agricultural use
1,1-Dichloroethylene	mg/L	<0.001			0.014	Releases or spills from industrial use
1,2-Dichloroethane	mg/L	<0.001			0.005	Releases or spills from industrial use
Dichloromethane	mg/L	<0.005			0.05	Industrial and municipal wastewater discharges
2,4-Dichlorophenol	mg/L	<0.0005			0.9	By-product of chlorination.
2,4-D	mg/L	<0.0002			0.1	Leaching and/or runoff from use as a weed controller
Diclofop-methyl	mg/L	<0.0001			0.009	Leaching and/or runoff from use as a weed controller
Dimethoate	mg/L	<0.002			0.02	Leaching and/or runoff from agricultural use
Diquat	mg/L	<0.007			0.07	Leaching and/or runoff from agricultural use
Diuron	mg/L	<0.001			0.15	Leaching and/or runoff from use in controlling vegetation
Endrin	mg/L	<0.00001			No Guidelines	Leaching and/or runoff from agricultural use
Ethylbenzene	mg/L	<0.0005			0.14	Emissions, effluents or spills from petroleum and chemical industries
Extractable Hydrocarbons	mg/L	<0.01			No Guidelines	Releases or spills from industrial use
Fluoride	mg/L	0.07	0.15	0.12	1.5	Erosion of natural deposits in watershed. ²
Giardia, Min. Log Reduction Ratio ³	no units	1.02	2.27	1.48	Treatment Goal	Domestic animals, wildlife and human waste.
Glyphosate	mg/L	<0.005			0.28	Leaching and/or runoff from use as a weed controller.



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Gross Alpha	Bq/L		<0.15		0.5	Naturally occurring; emissions from nuclear reactors
Gross Beta	Bq/L	<0.05	0.09	0.06	1.0	Naturally occurring; emissions from nuclear reactors
Haloacetic Acids, Total	mg/L			0.0073	0.08 (Annual Average)	By-product of chlorination.
Hardness	mg/L as CaCO ₃	132	200	168	No Guidelines	Erosion of natural deposits in watershed.
Heptachlor + heptachlor epoxide	mg/L		<0.0001		No Guidelines	Leaching and/or runoff from agricultural use
Iron	mg/L		<0.010		0.300 (A)	Erosion of natural deposits in watershed.
Lead	mg/L		<0.0005		0.005	Leaching from plumbing (pipes, solder, brass fittings, and lead service lines)
Lindane	mg/L		<0.00001		No Guidelines	Leaching and/or runoff from agricultural use
Lithium	mg/L	0.0011	0.0039	0.0025	No Guidelines	Releases or spills from industrial use
Magnesium	mg/L	11.1	15.9	13.7	No Guidelines	Erosion of natural deposits in watershed.
Malathion	mg/L		<0.001		0.19	Leaching and/or runoff from agricultural and other uses
Manganese	mg/L	<0.0005	0.0022	<0.0005	0.12	Erosion of natural deposits in watershed.
MCPA (2-methyl-4-chlorophenoxyacetic acid)	mg/L		<0.00002		0.1	Leaching and/or runoff from agricultural and other uses
MCCP (methylchlorophenoxy propionic acid)	mg/L		<0.00008		0.015 (A)	Leaching and/or runoff from agricultural and other uses
Mercury	mg/L	<0.000002	0.0000028	<0.000002	0.001	Erosion of natural deposits in watershed
Methyl parathion	mg/L		<0.002		No Guidelines	Leaching and/or runoff from agricultural use
Metolachlor	mg/L		<0.001		0.05	Leaching and/or runoff from agricultural and other uses
Metribuzin	mg/L		<0.001		0.08	Leaching and/or runoff from agricultural use
Mirex	mg/L		<0.00001		No Guidelines	Leaching and/or runoff from agricultural use
Molybdenum	mg/L	<0.0005	0.0008	0.0006	No Guidelines	Leaching and/or runoff from industrial, agricultural and other uses
Monochlorobenzene	mg/L		<0.0005		0.08	Releases or spills from industrial effluents
MTBE (methyl tertiary-butyl ether)	mg/L		<0.0005		0.015 (A)	Spills from gasoline refineries, filling stations and gasoline powered boats; seepage into groundwater from leaking storage tanks
Nickel	mg/L	<0.0005	0.0009	<0.0005	No Guidelines	Leaching from plumbing (pipes, solder, and brass fittings)
Nitrate	mg/L as N	0.06	0.17	0.10	10	Erosion of natural deposits in watershed
Nitrite	mg/L as N	<0.003	0.003	<0.003	1	Erosion of natural deposits in watershed
Nitrotriacetic acid (NTA)	mg/L		<0.0002		0.4	Sewage contamination
N-Nitrosodimethylamine (NDMA)	mg/L		<0.000002		0.00004	By-product of chlorination; industrial and sewage treatment plant effluents
Nitrogen, total (TKN)	mg/L	<0.10	0.26	0.12	No Guidelines	Erosion of natural deposits in watershed
Odour	Scale = 0-12	6.5	9.5	8.2	Inoffensive	Biological, industrial, or treatment disinfection sources
Paraquat	mg/L		<0.001		0.01	Leaching and/or runoff from agricultural and other uses
Parathion	mg/L		<0.002		0.05	Leaching and/or runoff from agricultural use
Pentachlorophenol	mg/L		<0.0005		0.06	By-product of chlorination
Pesticides, total	mg/L		<0.01		No Guidelines	Leaching and/or runoff from agricultural use
pH	pH units	7.2	8.0	7.7	7.0 - 10.5 (O)	Influenced by the dissolved minerals in the water, temperature and water treatment processes.
Phorate	mg/L		<0.0008		0.002	Leaching and/or runoff from agricultural and other uses
Phosphorus, Total	mg/L	0.002	0.005	0.003	No Guidelines	Leaching and/or runoff from agricultural and other uses
Phthalate Esters	mg/L		<0.01		No Guidelines	Industrial effluents or spills
Picloram	mg/L		<0.0002		0.19	Leaching and/or runoff from agricultural and other uses
Potassium	mg/L	0.4	1.1	0.5	No Guidelines	Erosion of natural deposits in watershed.
Polycyclic Aromatic Hydrocarbons ³ (PAH)	mg/L		<0.0001		No Guidelines	Industrial sources
Selenium	mg/L	<0.0005	0.0010	<0.0005	0.05	Naturally occurring (erosion and weathering of rocks and soils) and release from coal ash from coal-fired power plants and mining, refining of copper and other metals
Silicon, dissolved	mg/L	1.25	1.88	1.53	No Guidelines	Erosion of natural deposits in watershed.
Silver	mg/L		<0.001		No Guidelines	Naturally occurring (erosion and weathering of rocks and soils)
Simazine	mg/L		<0.002		0.01	Leaching and/or runoff from agricultural and other uses
Sodium	mg/L	3.5	5.5	4.4	200 (A)	Erosion of natural deposits in watershed.
Strontium	mg/L	0.132	0.214	0.169	No Guidelines	Erosion of natural deposits in watershed.
Sulphate	mg/L	42	67	51	500 (A)	Erosion of natural deposits in watershed.
Sulphide	mg/L as H ₂ S		<0.0019		0.05 (A)	Can occur in the distribution system from the reduction of sulphates by sulphate-reducing bacteria; industrial wastes
Taste	mg/L		Not Tested		Inoffensive (A)	Biological or industrial sources
Temperature	°C	6.5	17.6	8.0	15 (A)	Surface water temperature.
Terbufos	mg/L		<0.0007		0.001	Leaching and/or runoff from agricultural and other uses
Tetrachloroethylene	mg/L		<0.001		0.01	Industrial effluents or spills
2,3,4,6-Tetrachlorophenol	mg/L		<0.0005		0.1	By-product of chlorination; industrial effluents and use of pesticides
Thallium	mg/L		<0.0005		No Guidelines	Erosion of natural deposits in watershed.
Tin	mg/L		<0.0005		No Guidelines	Industrial effluents or spills
Titanium	mg/L		<0.0005		No Guidelines	Industrial effluents or spills



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Toluene	mg/L		<0.0005		0.06	Emissions, effluents or spills from petroleum and chemical industries
Total Dissolved Solids	mg/L	155	217	194	500 (A)	Erosion of natural deposits in watershed.
Total Organic Carbon	mg/L	0.4	1.0	0.6	No Guidelines	Erosion of natural deposits in watershed.
Triallate	mg/L		<0.001		No Guidelines	Leaching and/or runoff from agricultural and other uses
Trichloroethylene	mg/L		<0.001		0.005	Industrial effluents and spills from improper disposals
2,4,6-Trichlorophenol	mg/L		<0.0005		0.005	By-product of chlorination; industrial effluents and spills
2,4,5-T	mg/L		<0.0002		No Guidelines	Leaching and/or runoff from agricultural and other uses
Trichlorophenoxypropionic Acid (2,4,5-TP)	mg/L		<0.0002		No Guidelines	Leaching and/or runoff from use in controlling vegetation
Trifluralin	mg/L		<0.001		0.045	Runoff from agricultural uses
Total Trihalomethanes ³ (TTHMs)	mg/L			0.0060	0.1 (Annual Average)	By-product of chlorination.
Turbidity	NTU	<0.05	0.06	<0.05	0.15	Suspended particles in solution.
Uranium	mg/L	<0.0005	0.0006	<0.0005	0.02	Industrial effluents or spills
Vanadium	mg/L	<0.0005	0.0009	<0.0005	0.0005	Naturally occurring (erosion and weathering of rocks and soils)
Vinyl Chloride	mg/L		<0.0005		0.002	Industrial effluents; degradation product from organic solvents in groundwater; leaching from polyvinyl chloride pipes
Virus, Min. Log Reduction Ratio ³	no units		1.5		Treatment Goal	Domestic animals, wildlife and human waste.
Xylenes, total ³	mg/L		<0.002		0.09	Emissions, effluents or spills from petroleum and chemical industries
Zinc	mg/L		<0.003		5 (A)	Erosion of natural deposits in watershed. Leaching may occur from galvanized pipes, hot water tanks and brass fittings.

Legend

¹ Maximum acceptable concentrations and guidelines as determined by Health Canada and the Alberta Environment and Parks license to operate.

Information hyperlinks

[Health Canada Guidelines for Canadian Drinking Water Quality, Summary Table \(Feb-2017\)](#)

[Health Canada Water Quality - Reports and Publications](#)

[Alberta Environment & Parks](#)

² The City of Calgary ceased fluoridation of its drinking water on May 19, 2011.

³ Calculated parameter based on individual analytes

(O) Operating guidance as determined by Health Canada

(A) Aesthetic Objective as determined by Health Canada

< Indicates not detected above the specified value

Bq/L = Becquerel per litre

mg/L = milligrams per litre, or parts per million (ppm)

MPN = Most-Probable Number

NTU = Nephelometric Turbidity Units

TCU = True Colour Units

Treatment Goal = Calculated log removals are health based treatment goals for enteric protozoa and viruses as determined by Health Canada.